



## NEWS IN BRIEF

## Scottish plant for Mostek?

US SEMICONDUCTOR company Mostek is expected to install itself in a manufacturing plant in Scotland by the first quarter of 1979. Though company officials in Europe, and the Scottish Development Authority both declined to comment, there is strong evidence that negotiations between the two are nearing completion.

The plant, which could employ 2,000 people, will be used to make the big sellers from Mostek's product line, according to industry sources.

## DHSS upgrades

THREE ICL 1906A mainframes processing National Insurance contributions for 45 million people are to be replaced by two 2980s. The new machines are to be installed in January and August at the Department of Health and Social Security computer centre in Newcastle, and each will be backed with 15 of the new high-density ICL MT 1250 tape drives. They will also each have 3 Megabytes of main memory and 3,800 Megabytes on disc.

## Gamma grows

FOLLOWING its decision to diversify into systems based on the IBM Series 1 minicomputer (CW, June 29), Gamma Associates has formed a new company, Gamma Business Machines, to market business systems using the CompuData COS/1 operating system and Cobot compiler. The company exhibited a Series 1 mini at Compec last week, and reports that it has reserved 50 machines from IBM.

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## Insurers say fire machine can be reclaimed

EXPERTS brought in by the insurers of the brand new dual ICL 2980 system contaminated by smoke a few weeks ago at the Swiss Bank in the City of London feel that the machine can easily be reclaimed, even though ICL has said that the damage could have serious long-term effects (CW, November 23).

The bank's insurers have agreed to pay ICL for a completely new system at a cost of about £1.4 million and are waiting for ICL to agree to some form of acceptable servicing arrangement for the con-

taminated system after it has been cleaned and sold by the insurers to a new user. A spokesman for G. and E. Brindley, the firm that will carry out the cleaning of the 2980s on behalf of the insurers, told Computer Weekly that Bradley technicians had taken swabbings from various parts of the system and had found that the level of chlorides in the swabbings that could have been caused by smoke contamination was very low.

He said that ICL's attitude to the Swiss Bank system with its low level of con-

tamination could adversely affect insurance premiums on ICL computers in the future. He added that his company had successfully reclaimed a Burroughs D701 system last year after it was seriously contaminated with smoke from a fire caused by a faulty line printer.

G. and E. Brindley, a wholly owned subsidiary of Loens Industries, specialises in building and servicing high technology electronic equipment and has a repair and calibration department employing about 100 specialists.

## Muted approval of DPC report

MUTED approval was the reaction last week from most of the organisations concerned about privacy to the Data Protection Committee's report. Comments ranged from a lukewarm "not unreasonable" from the Institute of Data Processing Management to an enthusiastic "practical and sensible" from the Computing Services Association.

Serious criticism came from the National Council for Civil Liberties. General Secretary Patricia Hewitt, while welcoming the report, said that she was worried that so much was left to Codes of Practice.

"The Data Protection Authority," she said, "will have to go over all that ground again [in working out Codes of Practice] and may come to different conclusions."

She also said that the lack of co-operation the committee had from the Metropolitan Police was "depressing." The committee had underestimated the threats posed by the Police National Computer and the Thames Valley "computerised gossip" system (CW, November 30), and she pointed out that there was no mention in the report of the storing of political information on the PNC.

Alan Benjamin, of the CSA, complimented the flexibility of the report's proposals, saying that that was its distinguishing feature over arrangements in other European countries, and was essential because of continual changes in technology. He was "delighted the commit-

tee has bought the concept of the 'beneficial user' concerning itself with the use of information, not the files themselves. Regarding the issue of registration versus licensing (the CSA feels that registration on its own would be ineffective) Benjamin thought that what the report proposed was in effect licensing, because of the codes of practice that registered users would be required to follow. This would act as "an iron fist in a velvet glove," he thought.

The IDPM, on the other hand, expressed approval that the committee had "come down firmly in favour of [registration] having seen the trap that a licence carries with it [an implied approval], and the administrative burden to police a licensing system would jeopardise the possibility of actual legislation." Thus both opposing sides think that they have won over this issue.

The British Computer Society and the National Computing Centre both welcomed the report. The BCS said that "most of the questions that can arise in the areas of privacy and data protection have been identified," and added that the DPC's proposals "should be highly effective."

The NCC said that "in due course attention should also be given to non-computer based systems which could infringe privacy."

LOGICA revenues have this year exceeded £10 million for the first time. The group's annual results for 1978 show a total revenue of over £10 million as against £8.8 million for 1977 - a growth of 47 per cent.

Some 56 per cent of this total came from clients outside the UK, with over £1 million from contracts in the Middle East.

On the 370 line, memory prices are cut by 23 per cent purchase and 13 per cent on all models apart from the 135, 145 and 155.

A new model, the 3705-III has been announced with a 10% faster memory cycle.



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## Double speed on Univac's new mini

KEY features of the new top-of-the-line Univac V77/800 minicomputer are a processor twice as fast as that of the existing 77/800, a 150-nanosecond cache memory and a 32-bit wide path into memory.

The machine, exclusively showcased in Computer Weekly (November 23), is formally launched this week. It features new 16K-bit memory with 128K words on a board, with error detection and correction as standard. One Megabyte of the new memory can be fitted into the chassis and, although it has a 100-nanosecond access time, the two-word fetch enables two words to be accessed in 750 nanoseconds, assuming a cache "miss."

The V77/800 has the full instruction set of the smaller models, with an additional four or five. Univac claims that the machine offers more power than the DEC PDP-11/70 (although an 11/74 is expected from DEC shortly), and points out that the V77/800 has outperformed the 11/70 in Fortran benchmarks.

The 800 is priced at 20% more than the 600 for a machine offering double the power. The cache has a capacity of 512K words and is standard, whereas the optional 370 nanosecond cache on the 600 is an option.

The announcement also includes a new operating system, Summit, details of which are in Software File (page 7).

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Briefing  
PL/I for the IBM 8100

A PL/I COMPILER for IBM's 8100 distributed processing system is understood to be under development at the company's Hursley laboratory. Cobot and Fortran are the only high-level languages which IBM has so far announced for the 8100 (CW, October 5).

IBM Hursley is known as a centre of PL/I expertise within the company.

## Inmos centre

NEB SEMICONDUCTOR fledgling, Inmos, is still hoping to announce officially before Christmas, the location of its technology centre, although earlier this week UK director Ian Burton was unable to confirm that it was to be in Bristol after all. Once it has been announced, selection will start of a site for the first manufacturing plant, which should be announced in the spring.

## WP for Shirley?

CIVIL servants at the Department of Education and Science are looking into the possibility of installing word processing equipment in Secretary of State Shirley Williams' private office.

This is the last Computer Weekly of 1978. We would like to thank all our readers and advertisers for their encouragement and support over the year and look forward to welcoming you back with our first issue of 1979 on January 4. Meanwhile, have a Merry Xmas and a good start to a Happy, Prosperous and Peaceful 1979.

## Thorn in micros?

THERE are strong indications that Thorn Electrical, with about £100 million to spend, is now in the market for a US company that would give Thorn an increasing interest in microelectronics. A Thorn spokesman confirmed that the company is keen to make US acquisitions.

## Don't miss it

DON'T miss BCS 79, the first major computer event of the new year. Taking place at the Bloomsbury Centre Hotel and Institute of Education in London from January 4-6, the event includes a wide range of presentations by BCS specialist groups culminating in a family "fun day" on Saturday, January 6. More details from BCS, 13 Mansfield St, London W1M 0BP. Tel: 01-837 0471.

## Awareness

THE Department of Industry has appointed PA International to help develop its microprocessor awareness programme, announced by the Prime Minister two weeks ago (CW, December 14). PA's brief is to assist the DoI in identifying and approaching the top 1,000 executives of British industry and to develop ways of making them aware of microelectronics.

## French lead in the race to sell technology to China

WITH a plan to build the C11-HB Level 64 mainframes and Level 6 minis in China, the French have stolen a march over other Western countries in the race to sell computers and other advanced electronics to the Chinese who, according to a first-hand account, are particularly hand-capped in computing by a shortage of all kinds of storage.

Earlier this year, Chairman Hu made it clear that computers and electronics were regarded as key elements in the next Chinese "great leap forward" (CW, April 13). And even before last weekend's announcement that America formally recognises China, US Presidential initiatives had been taken to pro-

vide technological trade with China, even at the expense of some loss of trade with Russia (CW, December 7). Vice-premier Wang Chen's visit to the UK last month (CW, November 16) also raised hopes that ICL and other British firms might play a major role in China and the government has now established a special unit in the

Department of Trade for co-ordinating trade with China and Hong Kong. Meanwhile, however, the Chinese Minister with specific responsibility for computing and electronics Tsien Min, has signed a detailed accord on computer collaboration with the French government. Tsien Min, who has also

visited ICL, spent a month in France, and the agreement goes into considerable detail, naming 12 companies.

Heading the list, CII-HB is to discuss the establishment of a factory for the Level 64 mainframe line in China, and perhaps more significantly, the highly

Turn to page 5

## Boxing Day pools forecast

AS part of its live Christmas party show on December 22, Thames at Six is planning to provide viewers with a Boxing Day football pools result forecast, based on the Forecast 4 computer system developed by Professor Frank George (pictured right), head of the cybernetics department at Brunel University.

As revealed by Professor George (CW, November 19) his previous system, Forecast 3, enjoyed much success in pools forecasting, and a club run by Topuz Books, of Great Missenden, was formed around it. Over a four-week period, 20 first dividends on the Treble Clonico and several hundred



other dividends spread over the three main football pools companies were achieved by the club members.

According to Thames at Six, the Forecast for Boxing Day will be "a purely academic exercise" as there are no pools for that day and they will be followed up in the next programme to see how near the mark they were. (See back page.)

## Rival bids for Modcomp takeover

ONE year after talks about a substantial minority stake were terminated, GEC is believed to be talking to Modcomp again, this time about full acquisition. There is, however, a rival suitor for the company, understood to be the US instrumentation and electronics specialist Gould Inc.

Modcomp commented that a "large multinational company" was proposing to make a cash offer for all Modcomp shares outstanding, and that a "privately held domestic corporation" was seeking a 20% stake.

## IBM chooses South Bank site

A SITE between the National Theatre and the London Weekend Television tower in the heart of the South Bank Arts complex has been chosen by IBM as a possible location for new building to house its regional marketing centre. The site is currently occupied by Associated Newspapers.

## Addressograph-Multigraph versifies

A buyer for Jacquard's been found for just about nine million pounds. But it's not ITT (See Oct 19, page three). They're Addressograph-Multigraph bound.

## INSIDE YOUR POETIC COMPUTER WEEKLY

BUBBLE BLOWERS	Results of our Competition, which produced many merry bubbles and some extra prizes. Page 2
SECRET DESIRES	In an exclusive probe, Chud lit the veil on the industry's secret ambitions. Page 4
SQUEASE WHAKKS	Alan Shuttle sends an Xmas pack. Page 5
POETRY, POET-TREE	And throughout our Xmas issue, the verses of CW have blossomed forth into verse. (For better or worse) continuing in our annual Poetry. Page 11
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# COMPUTER WEEKLY

## Let's get happy for '79

THE gloom and doom merchants that are a prominent feature of the modern British landscape have leapt upon the microprocessors with the enthusiasm of Dracula approaching a virgin neck.

Nobody denies that new technology has important effects on the patterns of employment. What Computerweekly finds objectionable in much of the public debate on the impact of technology is the way it accentuates the negative and eliminates the positive opportunities opened by the technology.

Through the gloom of the pundit-generated fog, there is seldom a glimpse of the excitement that can be generated by micro-based systems, particularly among the young.

One of the extraordinary facts about the use of computers in schools is that they have been found to be particularly valuable in educating children who have otherwise been dismissed as educationally handicapped.

That is why it is so deplorable that the British educational system has failed to keep up with the modern world, as highlighted at a recent conference in Stuckport (CW, December 7). As schools inspector David Tinsley said at that meeting, there is a growing gap between the use of

technology in industry, schools and in society at large. Calculators are still regarded with suspicion in schools, never mind other information technology devices such as small business systems, colour graphics terminals, etc.

1979 is the international year of the child. Britain's contribution to this should be to launch a massive drive to give all our children a chance for a prosperous place in tomorrow's technological world.

It is time to brush away the irrelevant cobwebs of past social and educational attitudes and to bring a breath of real world fresh air into the classroom.

And the best way of doing this is to counterbalance the gloom merchants with sparks of fun and enjoyment, the thrill of new discoveries and a sense of excitement at the opportunities that could burst into flame to hold at bay the shadow of unemployment and social chaos that is so often held before our eyes.

It is therefore appropriate that the first major event of the year, BCS 79 (CW, December 7) will include a Saturday Fun Day which aims to do just this. Computerweekly fervently hopes that this sets the trend for a new attitude which will help carry the country through to peaceful and prosperous 1980s.

## Ten years ago...

COMPUTER WEEKLY DECEMBER 19, 1968

THE largest automation group in the world, GEC-Elliott-Automation, was formed by the merger of GEC-AEI, English Electric and Elliott-Automation. A conference was held by the Ministry of Transport to introduce the second phase of its integrated system program for highway design. The GPO placed an order worth £3.4 million with Gecor, for equipment to be used in the expansion of the telegraph network. The first US patent for a computer program was granted in Washington. Robert Caske, a Conservative MP, predicted a "1984 situation" arising from the computer system to be introduced in Sweden to handle vehicle and driver licensing. A system for the design and production of ship hulls by numerical control methods was presented to members of the British shipping industry.

## LAST INTERRUPT

THIS last Interrupt concerns that salesman's delight, the first-time user (or the sucker).

It begins almost three years ago when the managing director of a small company decided to join the ranks of the "modern world" and get a computer.

Thinking he was playing safe, he got a small business system from an apparently reputable manufacturer.

Six months later, the system arrived and the manufacturer, which originally offered to do the software, put him on to a "one man and a dog" systems outfit.

A year later, the system still was not working and the businessman got desperate and started considering legal action, which helped speed up the final handover date. It was not until early this year that his machine started working.

Since then, however, it has broken down continuously with both hardware and software faults. Although the manufacturer's brochure promised an 8-hour turnaround response from service engineers, it has been more like 48 hours.

It all came to a head early this month when the machine was down so much that, in the first week of December, the November invoices had not yet been sent out.

In desperation, the managing director started ringing round to see if there was any organisation

that could help him. As the software/house was not a member of the CSA, he found nowhere to turn but, by chance, he got talking to someone with many years' experience in computing.

"Have you tried talking to the user group?" the industry man asked.

"The what?" replied the managing director, oblivious of such a group.

"Well, have you tried finding a back-up site to run this month's invoices?" the computing man asked.

"Why the hell didn't the manufacturer suggest that?" he said, hastily moving towards the user association and the hope of a back-up installation.

The moral of this story for the user is to get a copy of the CSA contract guidelines (CW, November 23) to avoid being caught with their trousers down. And for the manufacturer, to stop overselling systems that could ruin someone else's business while it helps to boost your own sales figures.

This week's winner, who gets a Christmas special prize of £10, wishes to remain anonymous.

From January 4, Computerweekly will be replacing Interrupt with a new page 2 feature. A new series of Interrupt might be on the cards in the future but in the meantime we would like to thank all those readers who have contributed to it.

## FOCUS

Once in London's Noble City stood a lonely Hollerith. It was feared by many people. Such a novelty herewith. Like a robot out of space. This machine they could not face.

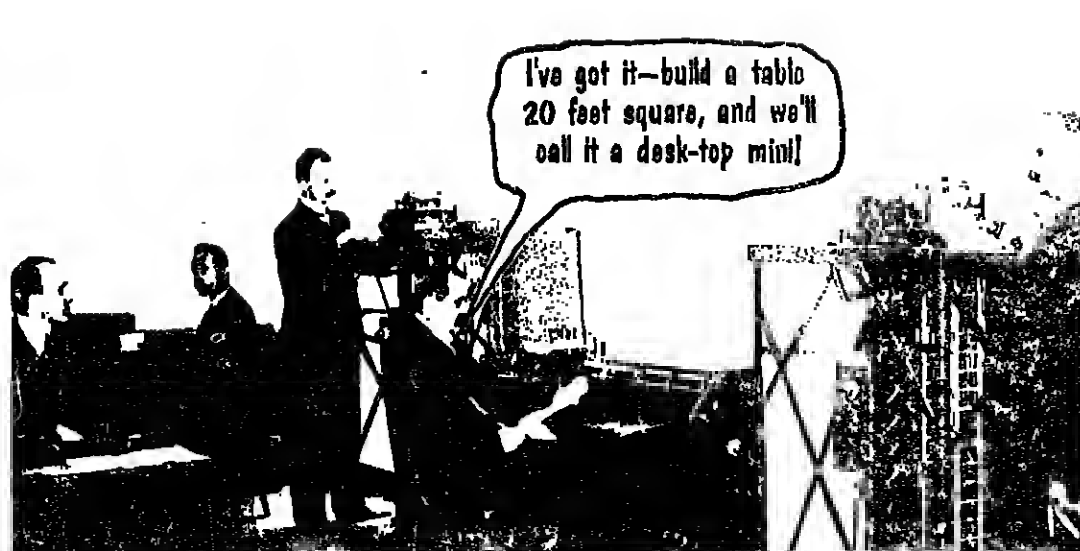
Gradually, they became accustomed to this mighty, big machine. They began to find it thrilling. So much work, so little time. "Let us buy some just for fun!" All big companies bought one.

Years passed, designs invented. ICT and IBM flooded the market and created

Much less work for all the men. Programmers were common place in all large firms and each spare space.

Then one day a new creation hit the market, stunned the world. Sillicone chips — what a sensation. Tiny little wires uncured. Revolutionised our life. Much more help and much less strife.

Calculators and computers. Made more efficient, cheaper too. Even washing machines will use them. Monday morning won't seem so blue. Brits will not be the same. Now sillicone chips have made their name.



The £25 first prize-winner from Tony Muagrevu.

## Winners of our grand Balloon Competition

WE received a splendid crop of entries for our Grand Balloon Competition — so many, in fact, that we have decided to award several runners-up prizes.

The £25 first prize-winner, after a great deal of discussion and heart-searching is Tony Muagrevu of Antony Ross Ltd, Kent (see above).

A second prize of £15 goes to Rod Harbottle of Virginia Water. Rod was one of several entrants who made much of the fact that the gentleman at the back of the tableau is darker than the others.

"But the process must be reversible," he is saying. "I've got a National Front meeting at eight." The gentleman studying the manual is apologetic. "Sorry George, there is nothing in the manual to cover this situation. We'll have to check the exposure timings."

A third prize of £10 goes to Jeremy Larcombe of Leeds, who gave balloons to the same two gentlemen. "Oh no... not another data check," says the first. "No... it says, 'Tell the operator to get his finger out of the line printer'" responds the other.

We are awarding three £5 prizes for other entries which made us laugh. The first of these goes to P. T. Regan, DP manager with Petbow at Sandwich, Kent, who has the seated gentleman reading a memo: "The personnel manager writes: 'Jocana, T-shirts, beard and long hair must be worn on the day shift, but operators may dress in lounge suits if they so desire on the night shift.'"

Then there's D. Corfield of Huntingdon, who titles the establishment "Acme Androids Ltd" and has the clean-shaven character (right) saying "Now they want females without moustaches."

Finally in this category, John Baker of the School of Mathematics at Bristol University, detected editor Malcolm Peltu's weakness for the hokey cokey and added appropriate balloons for four of the characters, starting with "You put the punch card in, you take the punch card out..."

An unscheduled prize of £10 also goes to Roy Candler of Peterborough, for his inspired suggestions for what the pictured showed. He thought it might be:

● The inaugural meeting of the Royal Commission on Data Processing and Privacy set up under Edward VII and due to report early next century;

● The bridge of the starship Enterprise in the forgotten silent film version of "Star Trek"; or

● Members of the British Computer Society evaluating the newest range of systems from a Well-Known British Manufacturer designed to cater for the nostalgia market.

As for the two lovelies with the tape, he was in no doubt.

"The smaller picture is a still from a forthcoming TV commercial showing a reel of nine-inch wide computer tape before and after washing in Brnd X."

It was nice to discover so many vintage movie huffs lurking among the readership of

Computer Weekly, and several readers submitted balloons with variations on the "Play It Again Sam" theme.

The £10 prize for the first entrant received correctly to say that the two lovelies were comparing old style magnetic tape with the "new" half-inch industry standard, was M. W. Toomey, of Manor Park, London, who was one of a number of entrants who thought the two standing were playing battle-

Many readers thought the picture was of early Hollerith equipment used in the US census in or around 1904. Our information is that it is a Hollerith mechanical data processing installation at the Bayer works in Germany in 1911.

The "special prize", which turns out to be a £5 book token, therefore goes to Angela Benn of Mitham Data Services, who correctly identified the equipment and was the only entrant to get the date right.

### Wilkes

#### TERMINALS

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## Savings for some in packet switching

PUBLIC packet switching networks could offer significant economies to users with interconnect levels of traffic, particularly where long distances are involved. But leased circuits will continue to be cheaper for those regularly transmitting large volumes of data between fixed locations.

This is one of the conclusions of a major report on packet switching prepared by the management services division of Logica.

In three parts, the report aims to assist both users of data communications and equipment suppliers with strategic planning. The first part, a description of the technology and applicable standards, is followed by a discussion of comparative costs and some typical applications.

The last — and longest — part is a detailed country-by-country survey of existing and projected

public packet switching systems.

Working systems, the report notes, are due to come online in nearly all Western European countries within the next few years.

With qualified acceptance of the X75 standard for interconnecting networks, the prospects are high for the establishment of European-wide and international links shortly afterwards, the report said.

In North America, though, carriers are planning to support a much wider variety of devices than in Europe, including synchronous and block mode asynchronous terminals.

By contrast, European PTTs consider that synchronous terminals should either be capable of implementing X25 or should use circuit switching services.

The relatively slow response shown so far by manufacturers

is expected to change in 1979, the report says, with the major manufacturers announcing interface products and network control software.

Almost every user of data communications, the report concludes, will want to be "packet compatible". Even if unlikely to use a packet switching system in the short term, they will wish to keep the option open for the future.

\*Packet Switching Report, pp 340, published September 1978 by Logica Ltd, 64 Newman St, London W1, price £125.

## Kennedy takeover?

DISC and tape drive manufacturer, Kennedy and Co, looks like being acquired by Allegheny Ludlum Industries Inc, a \$1.5 billion firm based in Pittsburgh, Pennsylvania, that manufactures special steels. The two firms have agreed in principle to the deal which should be finalised early next year.

## Industrial robot revolution

An example of the micro-inspired "second industrial revolution" is this latest industrial robot from Unimation.

Known as the Programmable Universal Manipulator for Assembly, or Puma, it has already been sold to General Motors for an experimental small-batch production programme for automotive parts, even though still in the pre-production stage.

With a load capacity of 7.7 lbs and an arm tip velocity of 3.3 feet/second, the robot occupies little more space than a human worker.

It offers similar capabilities of movement to humans, having five axes of motion that correspond to a human's waist, shoulder, elbow, wrist and hand rotations. It can position an object to an accuracy of 0.004 inches. The arm is driven by microprocessor-controlled servo motors, and the whole thing can be programmed either by a teach module or a computer terminal.

## Woman, 22, jailed for bank computer fraud

A 22-YEAR-OLD woman was jailed for two-and-a-half years after admitting the theft of £8,531 from Barclays Bank branch in Buntingford, Herts, by manipulating bank accounts by computer.

The fraud, staged over a two-year period, was carried out by Georgina Ansell who diverted money from customer accounts to her own and those of friends. She then withdrew this money most of it going to buy gifts and drugs for her ex-boy friend.

The actual method used by Ansell to perpetrate the fraud has not been disclosed in detail, but Barclays said that as a supervisor within the branch she had provided input to the computer.

## ICL through billion dollar barrier

STORMING through the billion dollar barrier, ICL has reported turnover and profit figures for the year to September 30 which fully lived up to expectations and were greeted on the Stock Exchange with a 5p rise in the share price, on an otherwise very dull day.

The company reported pre-tax profits 24% ahead at £37.5 million on turnover 22% up at £608.4 million, and says the growth is entirely real, since minor inflationary effects were cancelled out by unfavourable exchange rate variations during the year.

The company looks forward to similar growth in the current year, putting it in line for over £810 million turnover and £41 million profit for 1978-79. It is well placed for this, with orders taken during 1978 some 35% ahead of the previous year.

ICL has experienced the same trend towards outright sales that IBM has reported over the past two years. As a result, the area where ICL was below plan was in growth in rentals. Outright sales rose from 38% of turnover last year to 42% this year, while sales to leasing companies fell from 18.8% to 12.5%. Rentals and service were down from 48% to 46%, but ICL claims that the lower figure is still one of the highest in the industry.

Asia and Australasia was the star overseas region, with business growing 30% to £50.8 million. African business grew 24% to £49.6 million, while Continental Europe lagged behind the overall growth rate with 19% to £133 million, which was still ahead of the industry average. Only two overseas subsidiaries, the US and Finland, were unprofitable.

## SEMS sets up a subsidiary in UK

AFTER several abortive attempts to enter the UK market through distributors, Europe's highest multinational, SEMS, has decided to establish a wholly-owned subsidiary in the UK. Similar operations in Holland and Belgium are also planned for 1979.

Meanwhile the French company has announced a comprehensive series of hardware-software packages for both its Mitra and Solar minicomputer lines.

Called SIS, for SEMS Interactive Systems, the series includes four lines, three based on Solar and one on Mitra processors.

The SIS-T is the Mitra package, and is targeted at systems builders wanting a lower-cost alternative to IBM's System 38. It runs the Tribu Database and transaction processing software, which includes a proprietary high-level non-procedural transaction language, plus Cobol for background batch work.

SIS-T systems are priced at £12,000 to £80,000.

SIS-L, aimed at low-cost business systems market, offers a choice of Extended Basic or Accounting APL interpreters for fast interactive program development. Offered with Solar 18/40 and 18/65 models, it supports four to 24 terminals.

SIS-M is offered with the same two processors, and uses the Mux mixed-mode multiprogramming operating system with batch Cobol, RPG II and Fortran IV compilers.

SIS-S is offered with the full line of Solar processors for scientific applications, and comes with Basic, Fortran and APL.

The three Solar-based packages all feature both IBM 2780 and HASP RJE emulations. SIS-M systems can also communicate with each other using the X25 protocol, and the top model in the SIS-S line can communicate with multiple hosts.

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# DOWNTIME reveals secret desires of the industry

## All they want for Christmas is to be...

EXCLUSIVE  
REPORT  
BY CHAD

WHICH managing director of a computer company would really like to play cricket for England, and which industry figures really want to lead an all-woman expedition to Everest or play in a Chicago jazz band?

Following an exclusive in-depth probe survey study, I can now reveal all.

Sitting on the sidelines of the industry jostling down its quirks and follies each week, I have often envied our intrepid reporters in their daily search for the news. And once they have found the news, I have watched, fascinated, as they follow our editor's edict, cribbed from the ever-green film classic "Casablanca".

"Round up the usual suspects," says our Ed, meaning that the reporters should ring round the industry "spokespersons" for reaction comment.

This Christmas, I decided to follow his command. But instead of asking about reactions to government reports, micro policies, et al, I asked: "What is your secret ambition: what,



other than your current job, would you rather be doing?"

Of all the celebrities, the one whose face appears in the computer Press most often is LIZ REES, the salesperson from Case who features in their ads. She has ambitions to be a company managing director in the travel or hotel business. Alternatively, she would like to be paid to be a calligrapher, a cabinet maker, or a concert pianist — at the Albert Hall at least.

DEREK ROBERTS, managing director of Plessey Microsystems, had no hesitation in naming his own secret ambition. "I would have liked to have been a clarinetist in a Chicago jazz band." There seem to be many frustrated musicians in this business — perhaps we could start an orchestra of sorts.

IBM user association chairman DES LEE could help, as he has aspired to play in Rod Stewart's backing group — a role to which he would be well suited since, believe it or not, he was once a full-time member, back in the early Sixties, of Sounds Incorporated, the band that played on the same bill as the Beatles on numerous occasions.

Despite the frighteningly high death rate among pontiffs these days, Des revealed another ambition: "I would like to be Pope John Paul II so I could recruit new members for the CUA in the Eastern bloc."

"On second thoughts," he said, "what I would most like to be is a chip in Raquel Welch's digital pendant watch." How he could reconcile that ambition with being Pope was not forthcoming.

ICL user association chairman, DR HOWARD WRIGLEY, is waiting for a call from Jim Callaghan because he sees himself as a sort of Minister of Technology concerned with implementing what he described as "a rational policy for the integration of computing in society."

REAY ATKINSON, head of the Department of Industry's computers and electronics division, has two ambitions, one serious, and one idealistic. The serious one is to try his hand at technical marketing. "To see if I can actually sell things."

Ideally, however, he would run far from the madding crowd to seek self-sufficiency on his 40-acre smallholding, "using microcomputer systems to control the cattle feed of course."

Former BCS president GERRY FISHER would like to be first Chancellor of the Exchequer of an independent Scottish government. Alternatively he would like to lead the first all-female (except for him) expedition to Mount Everest.

Last year's BCS president Professor PAUL SAMET said his mother was always asking him when he was going to leave this computer nonsense and go back to decent mathematics. She gave it up when he became a professor of Computer Science, though.

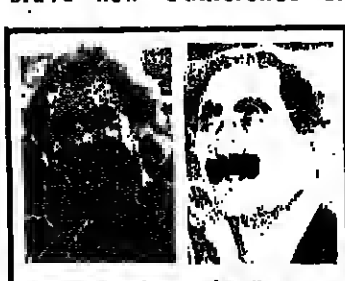
ALAN BENJAMIN, director-general of the Computing Services Association, would like to be conductor of the Chicago Symphony Orchestra. He imagines himself conducting them in Bruckner's Ninth symphony. Attendance would be an obligatory part of CSA membership.

Head of the national Computing Centre, DAVID FIRNBERG's early ambition to be an opera singer faded when he realised what hard graft the job

entailed. He would now like to be a commentator like Robin Day and have the opportunity to criticise without having to carry the can at the end of the day.

LORD AVEBURY, chairman of Digico, would like to be a barister of the Perry Mason vintage. Alternatively, in his old age he would like to retire to the wilds, like sci-fi writer Arthur C. Clarke while keeping open his connections with the outside world. "Clarke has a delightful pad in Colombo full of electronic aids," says Avebury. "I would write books if I had his talent and imagination."

DR DOUG EYEONS plays many different roles, including technical director of BOC Detective, active IBM CUA member and one of the founders of the brave new Conference of



MY manic depressive (no supports please) schizophrenic, day-dreaming editor, Malcolm Peltus, can't make up his mind whether he would prefer to have been someone Butch, like the best young British footballer, or Fanny, like Groucho. But for those who fail to achieve their ambitions, he passes on a message of comfort from Groucho: "Time wounds all heels."

European Computer User Associations. But the part he would secretly most like to play is that of E. J. Thribb, the bard beloved of Private Eye readers.

"I am sure my own poetry would lack the beauty of language of Thribb's own work," Doug admitted. But he added, "My son is called Keith, so I more than anyone know how Keith's mum thinks and feels about the subjects of Thribb's poems." Keith's mum is a source of inspiration to E.J.

If they ever make a Jaws II film, Hollywood movie moguls should sign up PETER MARRICK for one of the leading roles. Because the mild-mannered gent who heads up Lowndes-Ajax Computer Service spends his weekends engaged in a life and death struggle fishing for sharks off the coast of Cornwall.

Recounting some amazing tales of the deep, Peter told me, "I won £100 at one time for catching a shark weighing more than 75 pounds and a few years ago I caught the fourth biggest blue shark that year in the English channel. It was six feet long and weighed 108 pounds."

Peter admitted that his ambition was to run a fleet of shark fishing boats when he retires, although at the moment he thoroughly enjoys being an entrepreneur in the computer business.



LIZ REES... wants to be a concert pianist at the Albert Hall.



DEREK ROBERTS... Chicago jazz band clarinetist.

The UK's third of the NEB Inmos triumvirate, IAN BARRON, a popular guy for scoop-oriented media men at the moment, has just one secret ambition. All he wants for Christmas is a 'No Comment' record. My hard-hitting reporting colleagues pressed Barron for further clarification of this startling revelation, at which point he reached for the 'on' switch of his hi-fi...

JOHN MCNULTY, managing director of Modular Technology, said that he would like to continue what he is doing, but thought he might find time for a couple of worthwhile part-time jobs on the side. Taking an unseasonable dig, he said he would like to be head of the NEB, "to dismantle it and its silly plans for micros," or to be head of Post Office Telecommunications, "to mastermind the liberalisation of UK telecommunications."

ICL managing director DR CHRIS WILSON fantasises about playing cricket for England. Happily, ICL's latest financial scorecard is in close harmony with how I would like to see English results from Australia.

His chairman, TOM HUDSON, of whom he once said "this industry moves so fast that you never know what your chairman will say next," reveals a faint regret that he never mastered a musical instrument. "I would have liked to have played the piano really well," he said. That, too, came as a surprise to Dr Wilson. "I didn't know he wanted to be a pianist. I must ask him about that," he said.

Getting close to the classic 'wannabe' syndrome, MIKE STERLAND, boss of UK Apple Computers distributor, Personal



CHRIS WILSON... would like to play cricket for England.

Computers, at first felt a strong urge to be Dr Jonathan Miller. But on reflection, he broadened the outlook to being an academic leading a sheltered life. With perhaps just a touch of wishful thinking (a view not uncommon among his fellows in the personal computer busi-

ness, he also said he would like to be a wealthy patron supporting struggling entrepreneurs.

Our own FOCUS man, despite his frequent attacks on the "academics of the BCS," would secretly also like to have been a DnA at Oxford — or a playwright.

Winner of the Computer Weekly "We wish we had thought of it first" prize is KERR BORLAND, marketing director of Nascom Microcomputers. While expressing a desire to stay in his native as he is these things



REAY ATKINSON... would like to try sailing.

can be arranged — talk, he said, "what I really want to do is an in-depth systems research study of a brother." Hence in the final of the page for sub-contract consultancy work from this one.

Someone with a clear view of his destiny, and with his priorities in the right order, is the importunable MARTIN UNDERWOOD, managing director of Lynne Peripherals and bin vivener of note. "I want to be retired, preferably in an early age," he said in snappish response to the question. After some deliberation, he added to this ambition to be in purlieu, obviously in a big way. "I want Jim Callaghan's property on Tony Benn's estate, with Ted Heath's yacht at the bottom of the garden," he said. "You do pretty well in politics."

LORD GLENAMARA, formerly Postmaster General and Minister for Education Ted Short, is now chairman of Cable and Wireless, and he shows the most likelihood of actually achieving his secret ambition, as he has been working on it for a number of years. He is a keen amateur painter and wants to paint an interesting English sky entirely to his own satisfaction.

IAN MACKINTOSH of Mackintosh Consultants, leading agency of the new technology and its impact, brought my round-up to a serious conclusion, when he said, "I would like to play a part in achieving a society in which more people work and live in a pleasant environment using modern technology to help them."

There is nothing left to say, except, Merry Xmas, Happy 1979 — and may all your wishes come true.

## Data General chips in with Nova 4

FOR the microcomputer industry 1978 was unquestionably the year of the bit-alice microprocessor, with Honeywell, Harris, GEC, Ferranti and Modcomp just a handful of the companies bringing out new this approach is Data General, which has brought out three new Nova processors as the Nova 4 line, offering more power and lower cost than the Nova 3s.

### NEWS IN BRIEF

#### Butler Cox at White House

UK MANAGEMENT consultancy Butler Cox & Partners has been invited to stage a seminar on videotape in the White House. The presentation will be made to White House advisers and staff in Washington in January, and will cover Prestel, developments in France, Canada and Japan, and CAP-PP's plans for "telesoftware" via Prestel.

#### Security scheme

THE National Computing Centre's Computer Security Awareness Scheme (CW, May 11) has now officially started up. Books, seminars, newsletters, training materials, and so forth will be produced, and a subscription scheme is being offered for £36.04 which covers six "action reports" and six newsletters a year, updates to the NCC's security handbook, and admission to an annual security conference.

#### Training packs

A RANGE of operator training packages has been announced by Univac intended to help users train staff on its OS/3, OS/4 and 1100/OS operating systems. The first has already been introduced and the other two will follow early in the New Year. Each package comprises a set of lessons on video tape, supplemented by software intended to provide a controlled operating environment for the trainee.

## French sales to China

● From front page

successful US-developed Level 6 minicomputer line.

A multi-layer printed circuit board plant and other technical assistance are also included in the factories being supplied by the French on a turnkey basis.

Tagalux is to provide assistance with display terminals, printers and floppy discs, with a view to establishing licensing agreements similar to those made with Brazil and Poland.

R2E is to supply 280-based Micro 80/30 microcomputers, SEMS is to supply Solor microcomputers, and CAP-Soget is to assist in the establishment of a national software centre.

China's computer industry is at present handicapped by a separate shortage of all forms of storage, and a need for

#### Micro tender beats mini

MICROCOMPUTERS are beginning to win orders in the business environment against minicomputer opposition. Altogether in the UK, Compelec, has just won an £18,500 order from Glacier Metals of Ilchester for an Altair 300 system that was tendered against a Data General Nova.

According to Compelec managing director, Rod Versluis, the two terminal, multi-user system, with 10 Mbytes of hard disc storage, will be used by Glacier for running corporate stock control.

Key feature of the smallest, the Nova 4/C, is that it concentrates the power of a Nova 3 on a single board, including the processor, and 32K 16-bit words on a single 15in x 15in board.

It features the full Nova 3 instruction set, plus two standard additional instructions for load/store byte, and four optional ones for hardware multiply and divide. There is automatic program load and an optional real time clock.

The Nova 4/S is a two-board CPU with a fast 13-word instruction buffer, with up to 32K words of memory configured on a second board with four-way interleaving at board level. The interleaving allows an access every 100 nanoseconds, giving a

10 Megaword per second transfer rate on the memory bus.

The Nova 4X adds a memory management and protection unit which enables up to 128K words to be addressed. The traditional front panel of flashing lights is replaced by a console display or printer terminal on all models, and boards now slot into the chassis using gold-plated pins, for easier maintenance.

The three Nova operating systems, DOS, RTOS and RDOOS — are offered, and languages include Fortran IV and 5, the Algol-like DG/AL, extended Basic, business Basic, and assembler.

An optional floating point unit is offered, which runs in parallel with the CPU, unlike that on the Nova 3.

Data General expects the new models to prove particularly popular with OEM business systems builders. The Nova 4/C full memory costs £2,352; the 4/S costs £5,107; and the 4/X, configured with all the options, 20 Megabytes on disc, tape unit, 180 cpi printer and four displays, costs £38,227. The 4/C is on 180 days delivery and the 4/S and 4/X, 90 days.

(The facts are true: only the phrasing has been changed to protect the poetic mood of this week's issue.)

automated manufacturing techniques, says Dr Barry Bergeron, director of research and technical planning at Univac, who visited China in October on a US FEER delegation.

"The Chinese computer industry is actually part of one of the ministries," he told Computer Weekly in an exclusive interview.

"There are about 200 computers in the whole country," he said. "There are about 10 different types, ranging from an enormously bulky copy of the Dato General Nova 1200 to several one million operations per second machines, and one 2 MOP computer."

"I saw only one disc drive in the whole country, and that had a huge one metre diameter disc — so they always order vast quantities of disc backing when they buy a Western computer."

"With no discs, they have no operating systems, although they are doing research on time sharing. All their systems at present are batch paper tape using Fortran IV, Algol and Basic, and they have no business applications at all. Two-level multiprocessing is the best they can achieve, and 32K is a large memory," he said.

There is a small 16-bit machine doing train scheduling at Peking railway station, he reports.

"They are also doing small-scale ECL. I only saw one clean room, but it was a hot day, and all the windows were open. Everything is handled because they have no automatic handling equipment, so they get very low yields," he said.



#### New voice for IBM users

PROVIDING meaningful feedback to IBM on users' needs is one of the main aims of Professor Kurt Bauknecht, the newly elected chairman of the SHARE European Association, SEAS.

Professor Bauknecht has worked on hardware and system software development at ITT and also with Bull in Paris. He is now Professor of Informatics and Director of the Computer Centre at the University of Zurich. He was educated at the Federal Institute of Technology in Zurich.

#### Finance system

AN interactive financial modelling system intended for use by non-computer personnel has been introduced by Lowndes-Ajax Computer Services. Called Simplan, it was developed in the US by Social Systems Inc of Chapel Hill, North Carolina, and enables the various parameters in a financial model to be changed using free-form English statements. It is already used by 40 companies in the US.

## Local authorities list COM benefits

IMPROVED data retrieval is the main benefit derived by local authorities from using computer output microfilm, according to a report now available from the Local Authorities Management Services and Computer Committee, LAMSAC, on the use of COM in local government.

Interestingly, of the 57 existing or prospective users of COM, that completed the questionnaire which forms the basis of the report, 48 cited savings in space as an important reason for deciding to use COM, while only 31 listed improved data retrieval.

However, of the 44 users that answered a question on actual benefits achieved from COM, only 20 put space savings as the main benefit, while 24 cited data retrieval.

The report is a workmanlike table that details what more than 50 authorities all over the country are using COM for. It covers nearly 50 different applications.

\*COM in local government, 28pp, £2.50, LAMSAC, 3 Buckingham Gate, London SW1E6JH.

## French privacy team

THE members of the commission which will administer the French data privacy law have been named. They include six MPs, six judges elected by their colleagues and three nominated by the government.

The National Commission for Informatics and Liberty, as it is called, was set up under the privacy law which was passed in February this year, and is charged with controlling the licensing of all public sector files.

There are only two computer men on the commission. They are Jean-Claude Sarazin, formerly with Bull and now with La Redoute, and Paul Alba, from the oil company Groupe Elf-Aquitaine.

## Agreement ends

A ONE-YEAR distribution agreement signed in the US last year by Data General and the Wyle Group is not being renewed. Wyle sold Data General systems to end users in the West Coast region. The firm still sells Data products. Lear Siegler and Memorex kit.

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## THE STORY BEHIND THE NEW RADIO WAVELENGTHS

On the 23rd of November many familiar radio programmes will be found at new positions on the tuning dials of our receivers. What are the technical reasons behind the changes? And why did the BBC choose the particular new wavelengths for Radios 1, 2, 3 and 4? The November Wireless World brings you the whole story — plus useful tables listing the new wavelengths of all the UK radio stations involved.

Also in this issue: constructing a noise reducer for tape recording; an unusual design of electronic burglar alarm; a survey of laboratory "breadboards".

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FEB 22 Mini Computers, Mini Peripherals	MARCH 9 International Edition	MARCH 23 Computer Environment



# 'SCOUSE RULES' SAYS STAN BOOTLE-KELLY

DRAWING himself from the crabs of Friar's Wharf, the sunbather of Malibu Beach and other rigours of the Californian climate, culture and computers, Stan Bootle (pictured right), has taken time off to send a Xmas parcel to us folks back home.

Stan's real name (would you believe) is Bantla (he is also a native of Scouseland). He became part of the folk-singing revival in the 1950s, under his

Kelly nom-de-folk, when he took the Liverpool back street Came-All-Yo's to Cambridge and elsewhere.

Also part of that other-kind-of-folk movement, computers, Stan dates back to the Ediac at Cambridge when, he claims, "Software was a Man's job." He is running his own company called ADAM-ent Inc in San Francisco, which specialises in "A natural language" systems for minis and

micros. He claims it is the fastest growing company on the West Coast run by an Anglo-Irish topologist. He begins his message of Christmas cheer by reminding us that in the States "we have a sort of dress rehearsal for Christmas, called Thanksgiving, than you have four weeks to recover from the bout of turkey eating. Thankfully the Pilgrim Fathers did not have to survive on, say, baevers."

Now, read on...



A simple sign-off command "TRA, WELL" would replace the present jungle of BYEs, Ends, AMENs and Finishes.

The day-to-day banter heard in countless installations would lose its po-faced, anemic character. Repeat after me the following paradigm:

"De Binkerman's runnin' like a glass-blower's arse"

"The Supervisor appears to be functioning well"

"Wit' all yousechin-vaggin', me diddy's gone under de lamp"

"The growing number of conversational time-sharing users is noticeably degrading the performance of my mini"

"Yer proov's full of tats; I 'ad to gettuf at Edge Hill"

"Your program needs debugging; I was obliged to interrupt it prematurely"

"NB Edge Hill is the penultimate station before Lime Street, the London-Liverpool railway terminus"

"Tat' is a noun derived from the adjective 'tatty' = 'tattered'"

"Dis Subby's crawlin' wit' nuts"

"This small sub-routine still has many minor bugs in it"

"Keep diuse in de box, dere, Lu, dere's a shuddle on de weli"

"(Watch the VDU carefully, my good man, I fear that a flip-flop may be malfunctioning)"

The relative failure of such artificial universal languages as Esperanto and Interpasa indicates that we are justified in promoting a living language, warts and all, with a sufficiently creative pool of neologisms and malapropisms to keep the socio- and psycho-linguists amused (they can be real lugs when they're bored).

At the literary level, Scouse does not yet have its Murders, Murders or Priestleys, but I'm doing my best. Scouse Press, founded by adopted-Scouser Fritz Spleg, has published many guides to the dialect, including a definitive phrase-book in the Tench Yourself series, entitled "Learn Yourself Scouse" (Spleg, Slaw, Kelly).

It is not widely known that Hugo's novel "The Hunchback of Knotty Ash" was re-sited from misguided patriotic motives; nor that Dnizetti actually wrote an opera called "Emilio di Liverpool" (first performed in Liverpool under the direction of Fritz Spleg); nor that Smetona's masterpiece "The Battered Bride" was inspired by that composer's visit to Scotland Road.

My trump cards, showing John, Paul, George and Ringo will remain up my sleeve to counter any unexpected opposition.

Last you think that Liverpool is merely the Soccer mecca of the Universe (and it's true that we lead both Division One and the Central League) recall that the neutron (without whom the atom, as we know it, today, would fall apart) was invented and patented at Liverpool University in the 1930s.

And so in one swell foop, I offer you a bridge over troubled waters, a unity of discourse, a COMMON language.

If you doubt dot, ar kid'll put a fleuk's gob on yzl!

"My brother will smita you severely!"

# A Lexical Xmas—and a Phonemical New Year

WELL, this year, two big dinners or no, a small cloud darkens my festive sky. My stint on the committee of the Association for Literary and Linguistic Computing comes to an end, although I will continue to support its aims and activities, and urge you nil to do likewise (contact the secretary Dr J. L. Dawson, ALLC, Sidgwick Site, Cambridge University).

I take this opportunity, while Computer Weekly readers are seasonably vulnerable to goodwill appeals (what d'you mean, "You gava at the office"?), to heal, once and for all, the so-called Snow two-culture Dichotomy.

The underpinning aim of the ALLC (shared by other bodies such as the Association for Computing in the Humanities and the Association for Computer-Assisted Text Analysis) is to encourage the use of computers by scholars in the Humanities. Yet many of the latter still view the computer as the private reserve of a strange tribe of inhumanly numerate Godzillas what is solving problems in Particle Physics and Number Feary, using opaque jargon and dumb algorithms which are completely irrelevant to the real world of Mozart and Shakespeare.

What is sad about this idea that computers do only "sums," is that one of the earliest computer applications was the clearly successful "Winning World War II" package assembled at Bletchley in August, 1939

and serendipity as can be achieved by diving to the nearest library or book-store.

The new technology is not without its potential hang-ups and frustrations, but these are, theoretically, more soluble than the corresponding problems with the internal combustion engine (what a Dickensian device compared with our nano-second chips), the traffic jam, car parking, the single-access library catalogue, the stolen book and the annual inflation of Springer-Verlag's price-list.

The fly in this database is the cost of encoding. ACATA (The Association for Computer-Assisted Text Analysis) is attempting to "network" as many computer centres as possible to reduce the risk of duplication and to encourage standardisation in the production of machine-readable texts.

Also, with advances in low-cost word processing and typesetting computer systems, we are seeing more and more new publications starting life on type and disc. And perhaps, soon, OCR will fulfil its overdue promise.

In spite of all these technological advances, we must face the objections of the traditional humanist scholar who claims, with some justification, that gadgetry is often pursued as an end in itself. Let us note, first, that Caxton's new-fangled device met similar objections!

There is also the danger of what we might call spurious "inch-worm" quantification. Converting a sonnet to strings of bytes on a disc is not in itself reprehensible; you simply have another representation of the sonnet. From it you can print or display the poem and thence read and enjoy it (or not) as formerly.

In addition, you can readily subject each line, word, phoneme or whatever, to unlimited statistical scrutines and collocations galore, thereby producing any number of secondary "objects" for further study. Such analyses are now so easy to do and can be so superficially impressive that they are often found masquerading as genuine research.

In the old days, one would only embark on such tedious counting ventures if one had some valid hypothesis in mind. But it is unfair to blame the computer. An excellent tool allows good workmanship but never guarantees it.

There are now sufficient examples (excluding the obvious mechanical concordances) of computer-aided literary research where fresh insights have been gained in areas beyond the reach of purely manual methods. "Where? What? How?" I hear you cry. Join ALLC and you'll get the Bulletin thrice per year!

And yet further progress is undoubtedly hindered by the fact that non-computer scientists are all faced with a whole Bebel of alien languages and tricks of the trade before they can confidently access the impressive corpora now available online (the Bible, Chaucer, Shakespeare, Caesar, and Aquinas to drop but a few).

The development of natural language programming systems has proved to be a frustrating and elusive goal. Are "natural languages" precise enough to guide a finite-state machine through its mindless maze of possible steps? And if so, which natural language would minimise the xenophobia attendant on such decisions?

English has undoubtedly gained the mantle of Lingua Franca Scientifica (the Berkeley campus has a French Professor of Eng Lit; the best Shakespearean scholars are German and Jespersen was Scandinavian; QED) but no firm decision on which English dialect (BBC, ITV, Strine, Bronx, Geordie etc) should unify all future data processing and intellectual communion has yet been reached.

On strictly statistical grounds, a form of mid-European pidgin English should prevail. As the great Armenian mathematician Aram Besicovitch once said in a critique of his dialect: "Zere is more pipplevot spik Inglish like wi I do, zan like vot you do" (I paraphrase).

Sympathetic though I am to this claim, I feel that the centre of gravity of scientific activity has noticeably drifted away from Cambridge; further, that a more proletarian, less BBC-3 Talks Department ambience would help win over the socialist and developing nations. Shunning the many sardonically self-interested lobbyists and their patent lack of objectivity, I propose the Scouse dialect, as spoke in Liverpool.

I have proved elsewhere that since the weather of the Potato sonnet. From it you can print or display the poem and thence read and enjoy it (or not) as formerly.

The Scouse variant, therefore, already the indignant tongue of a million wackers and Judies, is a strong contender to extend to all classes the role that Latin played in bourgeois scholastic discourse up to the 17th Century.

Note, too, that Engels' Cotton Mill was just a few miles up the East Lancashire Road but for those indifferent to political contentions I will offer irrefutable phonological, lexical and syntactical arguments, like:

Take vowel sounds for example. Whereas most known languages have baffling mixtures of forward, backward, open, closed, nasal and oral vowels, Scouse has only one category, namely backward/nasal and all forms, including the Dingie Umlaut, are notably free from diphthongisation.

The consonants, too, present fewer problems for the foreign learner. The mouth is kept firmly closed, like, with the teeth clenched, greatly reducing the physical effort of articulation. The velar fricative (eg, the "ck" in "lick") and, to lesser extent, the initial heavily palatalised "k" (as in "Job queue") will, however, need careful practice, even by the Scots and Germans accustomed to "loch" and "Buch". They will need to add a

more urgent expectorant and glottal quality to such consonants.

Ample compensation can be sought, though, in the complete absence of the "th" sounds (both voiced and voiceless), a feature of standard English phonology which has literally alienated the French for countless generations and, indeed, triggered the 100 Years War.

Some would argue that Scouse has repealed Grimm's Law, so that all those centuries of pointless consonant mutations of simple Gothic sounds can now be declared inoperative.



WHAT YOU MEAN YOU GOT RANGUAGE PROBLEM, DEH, WACK?

At the morphological level, Scouse has useful and easily learnt rules for liaison and agglutination which can save up to 50 per cent in database storage requirements with only occasional loss in precision.

An impressive example is "What is the" compressed to "as in "Smarrerwitchynder-wock" = "What is the matter with you, my dear fellow"? Note, however, that "Wurral" can mean either "what will you" as in "Wormluave" = "What will you have" or "Which I will" (as in "De guine wurral sea next week" = "The game which I will see next week").

The regular Scouse diminutive will prove useful for all those trying to squeeze the most from an 80-col card or u4K chip. The suffix "-y" is added to the minimal root of the word to be shortened. Thus "Wellington Boot" becomes "Welly"; "Beverage" goes to "Bevvy"; "Upper Parliament Street" can be either "Uppy" or "Parly" (or a rare many example) while both "Tollmache Ale" and "Pellicien de Tollmache" can be stored as "Tolly" (so much rarer mony-I example).

A newly reconstituted ISO (International Scouse Organisation) could readily issue mandatory Scouse words and phrases to be incorporated in the major computer languages as standard function names and diagnostic messages, thus ending the current chaos of porochial variants!

In Basic, for example, a misleading line number would invoke the colourfully aggressive error message: "YER WHAT? Major errors would elch the response 'GERROFF' and might even lead to your 'Procy' (program) being 'Wellid' (aborted) without prior 'Griffin' (warning).

# MICHIE'S PRIVATEVIEW

## Memory tricks for the jelly computer...



A RECENT Privateview (CW, November 9) discussed various disadvantages of having to operate with a computer made of jelly and the remarkable human tricks developed to offset the seemingly crushing handicap. High on the list were the mnemonic ruses employed by professional "memory men" to conjure amazing feats of recall from the brain's limping bit-rates and pawky store.

Least readers be carried away by understandable scepticism, I report below a recent and revealing conversation.

Here at Bear Gulch, 2,300 feet above the Stanford campus, my apartment looks across redwood vistas towards the Pacific. In the other direction one can see clear across the San Francisco Bay to Count Dublin. Upstairs lives my landlord, Ed Seaman, chief engineer of Newall Research Corp, Saratoga, and a most delightful companion.

While mixing the second round of drinks for an impromptu landlord-tenant meeting to celebrate Thanksgiving, I was halted in my tracks by Ed's request that I ask him to cube any number between 0 and 100.

"OK!" I said, "Try 73." After a little knotting of his brows and silent mouthing he came back with "389,017".

"Well," I said guardedly, "I suppose that might be 73 cubed..."

So he ran upstairs and fetched his hand calculator. Up came 389,017.

"How about 37 cubed?" More screwing up of the eyes, and then "50,653". "You see," he said, half apologetically, "I haven't done that since my junior high-school days, and probably have quite a few gaps. But you know the secret? It's really quite simple. I got it from some book of magic tricks when I was a boy. It told about how you could memorise actually anything at all with the right mnemonics. This cube table was just one of the examples."

"Now I happen to have one of God's most lousy memories, just lousy. Really. What you do, though, you have a code of sounds for each of the digits 0, 2, 3, ... and so on. Here, like this—" and he reached for a scrap of paper.

Below is what Ed Seaman wrote:

1 ... T or D	8 ... Cher J
2 ... N	7 ... K or Q
3 ... M	6 ... F or V
4 ... R	9 ... P or S
5 ... L	0 ... S

"So how do you use it?" he continued. "You make up words using any old vowels between these consonant sounds. Then forget the vowels. They don't matter. 37, see, can be written S M O K E, and that's how it was in that old table. Never mind the leading zero, 037, okay? But then we leave, why ... L O S E A C H I L L Y H O M E" and he wrote out

0 3 7 - 5 0 8 5 3  
S M O K E - L O S E A C H I L L Y H O M E

"Wow!" I said. What was there to say? Then after reflection: "But you still have to remember a hundred items, except that instead of numbers you have all this garbage."

"Yes, but remember the garbage. You just do ... Here, I'll show you. I just might have it still. See, I wrote it all out you know. In time Ed showed up carrying two yellow sheets from an old exercise book, written in pencil in a careful hand. Here is an excerpt.

21 hmd	= punched	8 2 8 1
22 num	= does take a vow	1 0 1 7 8
23 suna	= a dandy joke	1 2 1 8 7
24 New Year	= with my fine rye	1 3 8 2 4
25 Nile	= a dull channel	1 5 8 2 6
26 wench	= took all cash	1 7 5 7 5
27 nag	= to buy cash wife a home	1 8 8 3 3
28 knave	= naughty plan	2 1 8 5 2
29 knob	= no army top	2 4 3 8 8

Entries like 30, 40, etc., were down simply as numbers, presumably because they give less trouble than finding phonetic equivalents.

Next Privateview will turn from jelly to silicon and consider some new semiconductor memory specs. A far cry, no doubt, from seeing the NEW YEAR in with MY FINE RYE, possibly with a WENCH who TOOK ALL CASH. But certain common principles are emerging which are worth a look.

Donald Michie

# Systime doubles its turnover

AIMING for a turnover of £35 million in 1982, the Leeds-based minicomputer manufacturer, Systime, has announced a turnover figure for its last financial year, ended September 30, of £9.1 million, more than double the previous year.

At the same time net profits increased by 76% to £845,000. Systime configures its range of commercial systems around processor boards that it buys in from Digital Equipment and the company now adds between 80 and 95% of the value of each system it sells. It builds its own VDU's and will soon be manufacturing all its own matrix printers, although it will continue to buy in big disc drives from CDC in the US, line printers from CDC's UK subsidiary, CPI Data Peripherals, and cartridge disc drives from Data Recording Equipment.

The biggest growth within the company is in the software department, where Systime has increased the head count from 85 to 140 since the end of September. About 30 of the new programming personnel are straight from college.

Systime chairman, John Parkinson, said that the aim for the company's current financial year was to increase turnover by at least 50% and profits to well over £1 million. But the biggest percentage increase would be in exports where business is expected to jump to £2.5 million from the £1.1 million achieved in the year ended September 30.

The firm is already established in the Netherlands and has just opened an office in Paris.

Commenting on the £35 million projection for 1982, Parkinson said that although this was nearly four times the 1978 figure it did not assume a four times increase in the number of systems sold, because revenues from service contracts and hardware add-on business by then would be substantial.

SOFTWARE FILE AND PROGRAMMER NOTES ARE ON PAGE 9 THIS WEEK.

# Interdata's new 16-bit minis

A NEW three-model line of low-cost 16-bit minis has been introduced in the US by Perkin-Elmer's subsidiary. The models are the Sixteen 10 with 8 to 32K words, the Sixteen 20 with 16 to 128K words, and the Sixteen 30 with 32 to 128K words and floating point hardware.

They come with an enhanced version of the OS-16 M12 operating system, are field-upgradable, and are aimed at OEM business systems builders.

No UK release date has been set.

IN response to my recent request for foreign-language alphabets, Martin Fessley, of Gwent, contributes

DEUX  
DEUX  
DEUX  
DEUX +

HUIT  
where E is even. See page 29 for solution.

# The Honeywell PPS. It does everything a little better.

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## PEOPLE AND EVENTS

Edited by Nancy Pocock

## ITT marketing and financial appointments

APPOINTED as marketing manager of ITT Business Systems is John Williams. He takes over from Peter Benstead who was recently promoted to the position of marketing director. Williams was formerly marketing administration manager, Graham Burke, previously group district manager for London North area, has been appointed to the new position of national sales manager. Appointed assistant controller of ITT Business Systems and Communications group, Europe is Geoff Vosper. Prior to this, he was controller for ITT Business Systems in the UK and also finance director for ITT Creed. He is succeeded as controller for the UK by David Lee, previously controller for ITT Creed. Formerly contract administrator, Tony Turner becomes contract and market administration manager.

Bill Clark has become divisional director of Datatype Systems, a recently formed offshoot of Datatype terminals. He was formerly UK sales manager for Intel. With Datatype, Clark will be responsible for marketing the recently announced Lear-Siegler VDP-1000 micro system in the UK.

John Bryson has joined Nixdorf as financial controller having previously worked as a management consultant for Compus and Lybroad Associates. Peter Gould rejoins the company as operations controller, after working in support for Hazel. A former Wang salesman, Cliff Sutton, joins Nixdorf's marketing team, with special responsibility for advertising and sales promotion. Former national accounts branch manager, Owen Cooper becomes marketing manager, while Bryn Taylor takes over as national accounts branch manager, having previously held the post of national accounts sales manager. Formerly a national accounts salesman, Richard Bearpark becomes London West branch manager.

Ray Wilkinson has been promoted by Redifon Computers to the position of customer services Midlands branch manager. He was formerly supervisor for the Midlands. Dick Cooling, previously customer services supervisor for the Southern branch, becomes customer services Southern branch manager.



Williams Gunn

Mark Gunn has joined RIZ Computer Services' Lasea team as a sales executive. He was formerly a graduate trainee accountant in the financial accounts department of FMI Records.

Jack Barrett has become a non-executive member of the board of directors of R. H. Cole, the holding company of the R. H. Cole group. He was until recently the director of research and development for Monsoon and retired this year from its board of directors.

Richard Koffler has been appointed as a research consultant with Butler Cox & Partners. He was formerly a research assistant at the University of California, Berkeley, where his MSc thesis was concerned with the analysis of reliability and fault tolerance of complex systems.

Alan Spenser, formerly a design engineer with Brown's operating Systems Services, has been appointed as a senior engineering consultant, specialising in hardware and software communications development.

Challand, until now senior software support analyst at the City branch of Eudacom Data, has been appointed data production manager of the branch.

## BETA officials

MANAGING director of Pinney Bowes, Rinn Williams has been elected president of the Business Equipment Trade Association in succession to Andy Andrews. Elected as vice-president is Bryn Wilson, sales director of Frank Wilson (Lift) and currently honorary treasurer of the association. The other three vice-presidents, Victor Haggwell of Blackdale-RSE, Fred Flower of IBM, and Arthur Gibb of Erit Adho, have been re-elected.

Charles Croker has been appointed to the board of Linotype-Paul as financial controller. He was appointed financial controller in 1977.

## DIARY

JANUARY 4 The application of microprocessor based systems by engineers. IMechE/IEEE/Microprocessor Application Group, University of Leeds.

JANUARY 6 BCS 70 Open Day, 10's Barlow sub-branch, Coaches provided.

JANUARY 8 Software Design techniques — data networks. F1111, 14, Robertson, 10's East Anglia branch, Thomas Palmer Hotel, Bedford, 10.00.

JANUARY 9 Packet switching, an overview. I. W. Adams, J. D. Wright, IEE, Savoy Place, London WC2E 7RN.

Computer education in schools. P. McIvor, BCS NW London branch/Matrics Teachers' centre, W. London, Railway Hotel, Greenford, 18.30.

Computers in retail distribution. J. E. Olake, BCS Croydon branch, Fairfield Hall, Croydon, 19.15.

National police computer system or the police command and control system.

10.00, W of London to Oxford branch, Bull Hotel, Goring, 19.00.

Computer branch, local control and low cost money. I. M. Ross, 10's, Reading branch, Capric Inn, Pangloss, 20.00.

Visit to British Rail, Northampton, 20.00.

evening, 10's Northampton branch, Northampton, 19.30 (14.000 40.00) ex 20.00

JANUARY 10 The impact on business organisation of rapid technological change. BCS Business Information Systems group, City University, London E1 4 20.

New technology and its effect on TQM. Harry Adelman, BCS Meridian group, 10's, London RW1 10.30.

Computer branch, West London Park Hotel, Cockfosters, 10.45.

Viewdata systems. 10's Kingston branch, Regional Management Centre, New Malden, Surrey, 19.30.

R. Shaw, chairman of BCS Branches Board, BCS Hampshire branch, The Lady's at, Chandler's Ford, 19.00.

## Liveware Saga

by Don

IS IT A CEILIDH? IS IT AN EISTEDDFOD? OR HAS... THE ARTS COUNCIL GONE STARK, STARK, BONEDEEP?



DON'T ASK ME, I'M STUDYING MY PROGNOSTICATIONS!

IT'S ONLY THE COMPUTER WEEKLY'S ANNUAL NO-ODES-BARRED WEEK!



## DOWNTIME CHRISTMAS SPECIAL

## Poet-tree

## The charge of the light byte

Into the valley of death rode the light bytes, that a second ago were a life, or something more relevant like the wages of sin, we're dumping you now to save management trouble.

Have courage, fall, your bytes of our past, your data retention is needed no more. You've lived your life valiantly, uncorrupted and pure, but virginity's no help when we're needing more cure.

Your representation of something important is no longer needed, though maybe to you that seems hardly relevant, dying on power down, perhaps you should fight back, that's what I'd do.

Martin Banks

## Horrid sonnet

It's been a vintage year for IBM: A veritable cornucopia, Such giant leaps toward Utopia, A torrent quite impossible to stem. Hos flooded forth from Armonk's gen'rous breast: A new desk-top, new WPs, new screens, New 38s for ageing 3/15s, Each smaller, faster, cheaper, bigger, best.

And oh the letters: Docs, RPG III: ACF/NCP/VS-v2, DPPX, DPCC — all new, And still to come, the longed-for series E.

Sheer joy to write about: one must enthuse, And yet... I wonder what they're like to use.

Tim Palmer

## Pneuma

Life is a terminal illness Whose course we may trace From angry birth to angry death, Which is that fevered moment When we know that others will survive Our unbreathed passing: Death is the last sigh.

And so we seek a second voice; Yearning to hear it is not sn: That death shall have no dominion That death is but a cure Of an incurable condition.

Thus hearing, whom do we trust? Life is progressive, whether Benign or malignant: Though cell yield to cell In a long dance cycling, Can we assume its meaning, Like the bee's returning dance At the hive, must point to something As soothing as honey?

We can die guessing, Or live — to the last gasp.

Don Mitchell

## A bit-slice of life

The robots sang in wild acclaim of IBM's latest mainframe, False eyelashes and stiletto heels, It even had chrome data reels,

But alas new micros came along and ended the robots happy song. Now their talk centres around this: How do you kiss a tiny black obelisk?

Robin Webster

## Quicker is slicker

Along the optical fibre The laser'd message came: "Things are no different, They are much the same."

Thus the Post Florida, Proving the ancient dictum: Words transcend the medium, What matters is — who picked 'em.

But the medium is the message, Quoth guru M. McLuhan: The point, I think, must have been "Fool The saying, but the duhan."

Don Mitchell

Selfies 1/20

## Party poem

I went to the party looking for a girl but instead I found you — little black spider

I was sitting on the floor dreaming of thighs while you sat in a corner lusty for flies

and at first when I saw that spot on the wall I tried to pretend you didn't frighten me at all

so I kept my eyes fixed on the backs of girls' knees and the bumps on their chests while you busied yourself weaving a web to catch your own feast of delicate flesh

then despairing of girls I turned my attention brazenly to you; trembling and vulnerable like the girl of my schemes, with eight arms to please me you created wild dreams

and as the party congealed into globules of two I was left in the corner along with just you, my little black spider, spinning silk curtains to make a boudoir of my beard

Malcolm Potts

## Written off

My life is a half-written sentence, always started, articulated indefinitely, never finished, even in past tense.

Your life is a précis, paraphrased, simple, concise, it lacks the vitality that juxtaposed bad language can raise.

Our life is now trapped in a paragraph. Not near the end, that sparks of finality. Nor at the start, we neither can laugh.

Martin Banks

## Til death

After all these years living with you is as exciting as payroll module 92; as surprising as battered bruised cod and chips for Friday canteen lunch; and communicating with you is like talking to a compiler in Backus-Naur

But after all these years I have grown accustomed to your wheys (and your lake home pey) so as we sit each night graph plotting our ever diminishing future I remember our proe vow:

while love > hate for richer or poorer until death do us part

Malcolm Potts

## Indian Emphyrean

I only fly Air India for the girls: There's Always one, worth All the endemic hold-ups, lksoma Struggle to check (for Every Indian seems to carry the Taj Mahal in his suitcase and Hanayun's Tomb a hand-baggage). There's Always one, im- Possibly elegant, sared in Lustrous green or bright and brittle Gold, as is Gift-wrapped, with a Smile that gently Tears your heart asunder, Creeps into your dreams and lies Languorous and perfumed like Siddharta's Kamala. And we, poor Prisoned souls and bodies, Belled like galley slaves, can Only sprawl uncorroborable and wonder: What unimagined realms of loveliness Are breached each time the Monsoon blackness of her hair Falls loose And lies about her shoulder, warm And all-embracing as the Sun South Indian night. Only fly Air India for the girls.

Tim Palmer

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# 'Electronic office' system designed to improve managers' productivity

UP to three-quarters of the wages of a large company could be accounted for by managers, and a main result of automated office systems should be the improvement of management productivity rather than that of secretarial staff.

That was the aim of an "electronic office" system established by Citibank in New York, although the project hit many snags when trying to turn theory into effective practice, according to Bruce Hasenyager, of Citibank.

Speaking in London at a conference organised by ISI of Chislehurst, Hasenyager said that if managers could communicate more efficiently and effectively they would be in a position to "manage better and to manage more".

From this principle sprang a Citibank development plan which embodied four major elements.

These were a communication/information control facility, an automated filing cabinet, an information sharing facility (which has proved of lesser importance than was at first thought), and the telecommunications infrastructure. The importance of the last aspect, said Hasenyager, cannot be underestimated.

As a first step, Citibank designed an advanced management workstation, to perform a variety of functions. Of these, only the word processing part was a success. The electronic mail part, said Hasenyager, was "a disastrous failure," basically because it was too much hard

work to use it.

The ability to perform local applications was also unpopular. The response time was poor, the displays were hard to read, and the software was "hostile". The access to remote computers was another function that gave less than satisfactory results, again due to the complex mode of operation.

So, said Hasenyager, not a happy result; it had to be regarded as a learning experience. Design of the workstation started again, with a clean sheet of paper. The process took two years and the result is a pilot project in Manhattan, involving 15 workstations in five different buildings.

The underlying philosophy inspiring the workstation has been to keep existing procedures as they are, and to build an electronic analogue of them. In this way the receptivity of the users has been greatly increased.

An important feature is the

adoption of a very high resolution display, the characters being formed from a 20 x 30 dot matrix.

Human factors feature strongly in the design of the keyboard. One feature is an "Opal" button, which allows you to recover an error.

Hasenyager said it would be difficult to overstate the importance of the physical plan. Air conditioning, power supply, wiring space are all affected. Citibank has just built a \$200 million building without thinking about these aspects, as a result of which it could well automate itself out of it in a few years.

On the basis of progress so far, Citibank is "pretty comfortable" with the new system. The cost of one management workstation is currently \$30,000 which, says Hasenyager, is too much. It should be (and shortly will be) \$10,000. At that time every manager will have one.

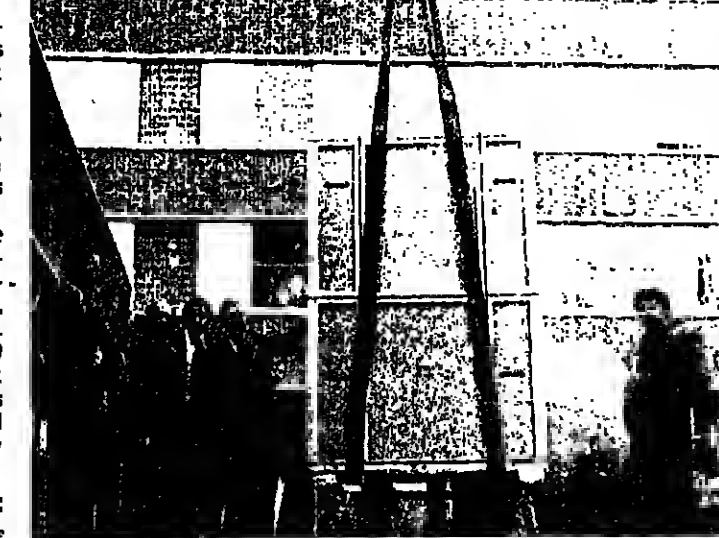
## Linguistic computing founder chairman retires

AN era came to an end for the Association of Literary and Linguistic Computing last week when Professor Roy Wisbey relinquished the chairmanship during the annual meeting. Professor Wisbey had held the post since the association was founded five and a half years ago.

Continuity has been maintained, however, by the appointment of Mrs Joan Smith as his successor. Mrs Smith, who

works for the University of Manchester Regional Computing Centre, was co-founder of the association with Professor Wisbey, and was also the first secretary and the first editor of the association's bulletin.

Professor Wisbey commemorated his retirement with an address in which he summarised the achievement of the association under his chairmanship. He described the ALLC Bulletin as "the most valuable result of our



Ordered earlier this year by the Universities of Bristol and Bath (CVU, June 22), the first Honeywell Level 68/DPS Multics system to be sold outside the US was installed last week at the Avon Universities Computer Centre in Bristol. The party, seen here greeting the first piece of equipment, includes Professor Mike Rogers, professor of mathematics and computing at Bristol University — who has a steady hand on the crane.

## Big money in desk-top computers

SMALL systems are big business, and will get bigger in the near future, according to the latest findings of US market research company, Venture Development Corp.

A study on desk-top computers shows a clear division in this market between commercial desk-top systems, as typified by the IBM 5100, the Wang PC-S-II and the Hewlett-Packard 1825, and the home and hobby computers.

The study shows that, although the latter sector is already the big volume sales market, the big market in value terms is desk-top computers.

Sales of desk-top systems in 1978 will total 28,000 units, according to the study, with a sales value of \$392 million. Home computers will total 31,000 units, but sales will only be \$71 million.

By 1981, the company predicts that while home computer sales will have risen to \$179 million, the market for desk-top systems will jump to \$1.2 billion.

## ASTMS New Year seminar

A THREE-DAY New Year seminar on the impact of microelectronics is being planned by the white-collar union ASTMS.

The seminar is for all the union's national officials, and will be held at its Whitehall College, from January 3 to 5.

Speakers will include Derek Roberts of Plessey, Robert Clayton of GEC, John Barron of Inmos, and Sir Kenneth Berill, head of the Central Policy Review Staff.

# Introducing the HP 2621.

Hewlett-Packard's new addition to its CRT family includes hard copy at the press of a key and a half dozen other very sophisticated features. But the best news is that it is easy to use and costs just £1,596\*.

We took a long, hard look at how you use a simple CRT terminal. We applied 10 years experience producing sophisticated high-performance computer products and engineered the 2621 from just one point of view: yours.

### Bright, high-resolution display

If you used a CRT all day, you'd demand the brightest, sharpest display made. So we didn't take any short cuts on the 2621's display. It's the same display with enhanced 9x15 character cell you see on every HP CRT terminal, even our top-of-the-line models.

### Scrolling memory

Interactive sessions go faster if you can look back at what you've already done. So we designed two full pages (18 80 character lines) of continuously scrolling memory into the 2621.

### Friendly typewriter keyboard

Which makes the 2621 easier to learn, faster to use. And to accelerate keying in numbers, we put the numeric keypad right in the middle of the keyboard.

### Pre-programmed function keys

We increased the capability of the 2621's simple keyboard with eight special keys. In regular use, they control the cursor, rolling and scrolling. But they're also labelled on the screen with pre-programmed functions which, with a touch of the shift key, control self-testing, terminal configuration, display functions and editing.

### Comprehensive editing

Editing? On a simple CRT? Sure. The 2621's comprehensive editing includes character and line insert and delete, clear line and clear display. What's more, the 2621 keeps your input separate from your CPU's, so you can edit replies before sending them to your CPU. And all without rewriting a line of your system's software.



The HP 2621 offers a built-in 120 CPS thermal printer that zips out a hard copy of your display in seconds.

### Easy interface

The 2621 communicates with your CPU at 110 to 9600 baud through an interface directly or via a modem. The 2621 is also available without the built-in printer for £908\*.

\*Prices correct at time of going to press.

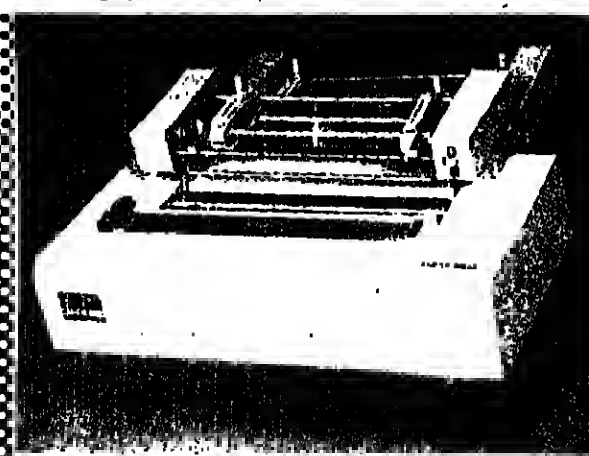
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- 96 characters
- 32 functions



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# The home loan company that's getting into computers

WITH companies like Datasab and Philips promoting modular banking terminal systems in the US, and Burroughs and NCR moving away from the rigid US approach to introduce products designed on the European model, US savings banks might be expected to have all the options they could possibly need for branch automation.

Yet after an exhaustive study of all the equipment on offer, Home Federal Savings and Loans of San Diego, California, rejected all the existing solutions to its problem and decided to design its own product.

The resulting system turned

out so well that the association, one of the half-dozen largest in the US, is planning to set up a separate company to market it to other savings and loan associations in the US.

The associations are similar to the UK building societies, and are mutual organisations, owned by their depositors. They operate a variety of different savings accounts, typically have many branches within one state, and, like building societies, lend money, mainly for house purchase. Home Federal has run its branch network system on an IBM 380/85, backed up by a second 85, for several years.

The machines run under EDOS, the proprietary enhanced DOS operating system marketed by the Computer Software Co. The main 380/85 has just been replaced by a plug-compatible AS/5 Model 3 from Intel and the association plans to switch to OS.

It runs Cullinane's IDMS database management system, which is updated in real time, handling an average 40,000 to 50,000 transactions a day, with the rate running at the equivalent of 100,000 a day at peak hours.

The association has grown dramatically during the 1970s,

with assets reaching \$3,300 million today, compared with \$800 million in 1971.

"Our previous system, using IBM 2980 teller stations, was Nightmare City," says Dan Pettit, who is in charge of systems design at Home Federal.

"It was just not doing the job, and so we examined everything on the market, but nothing suited the Savings and Loan environment. We did look at Datasab of Sweden, but they had only just arrived on the US market, and we weren't too happy with the way they hang all the terminals off a bus with a

priority system for transactions."

Home Federal had some fairly precise requirements — in particular cosmetic but important things like walnut cabinets for the terminals to blend in with the bank decor — and decided to develop its own system.

So it was that the Vision 2000 system was born — Vision for Vendor Independent System Information Online Network.

At the mainframe end, Home Federal opted for the approach used by Paradyne with its PIX 11 system for building a network around an IBM mainframe — that of making all the remote terminals look to the mainframe like local peripherals. The advantage of this method is that there is no need to tie up the mainframe with communications software.

General Automation was chosen to supply the mini and microcomputer hardware right through the system, from the mainframe front-end through the satellite processors to the branch controllers.

The front-end is at present a GA SPC-16/65 mini, shortly to be replaced by the newer 16/440. It is attached to any of the mainframe channels, byte, selector or block multiplexor, and looks to the mainframe like a tape unit.

The front-end runs under GA's RTOS real time operating system and is programmed in assembler. It handles full error diagnostics for the whole system, routine reports being logged on a printer and any potentially fatal faults coming up on a display. It also compiles statistics and status reports on the system.

The front-end supports three satellite processors, GA 10/441s, distributed regionally in California, using bisynchronous communication, although a switch to IBM's Synchronous Data Link Control is planned shortly.

The satellites act as network controllers and do some concentration. They are each backed by a 10 Megabyte disc drive which carries the journals for all the branches supported. Each satellite system includes three or four processors including one on hot stand-by, and there are five high-speed lines out of the front-end, each with two satellites attached.

The satellites, also programmed in assembler, run under GA's Control 3 operating system. They support two lines each, and each line carries about 10 branch controllers multiplexed off it.

"We use 16K word GA 18/110 single-board microcomputers as the branch controllers," says Pettit. "They are the only 18-bit microcomputers with support for SDLC, which was one of the attractions. The 110 has a 64-port asynchronous multiplexer, enabling up to 64 independent devices to be attached to each controller."

The 110s, which have no operating system and no bulk storage devices, support terminals and printers. The association has 61 branches, and there are a total of 98 controllers on the network, with two in the larger branches, each supporting alternate teller positions. The smallest branches on the network have only two positions, but the largest have up to 80.

The terminals are attached to the controller via current loop links, using fine parallel wire cables which were already installed in many of the premises.

The satellites are pulled from the front-end and the controllers are pulled from the satellites, and communication from terminal to controller is interrupt-driven. Cudex LSI 48 FP autoqualising multi-adaptive modems are used throughout the network; polling is at 2400 bps, and data is transmitted at 2,400 bps for the first 27 milliseconds while equalisation is taking place, thereafter at 4,800 bps.

The terminals, designed or adapted to Home Federal's specifications, are Lear Siegler 80MTs with Okidata CP410 110 chips bi-directional printers. The terminal includes 9" CRT display, full keyboard and a numeric keypad with 16 programmable function keys, housed in a walnut cabinet. It is controlled by a Motorola 6800 microprocessor.



Dan Pettit... "Our previous system was Nightmare City."

Messages from the terminals are formatted by the satellite processors so as to look to the mainframe as if they came from an IBM 2980 terminal.

The association has 10 field engineers, and gives branches a mean time response to an alarm call of well under one hour; repairs, by replacement, are effected within five minutes.

All program development is done on a GA 16/440 MTS system, and new programs are loaded downline from the centre; programs are stored in ROM on the controllers and automatically loaded on power-up.

For the future, automatic teller terminals are under consideration, and if introduced, will be attached to the branch controllers.

Although all programs have so far been written in GA's assembler, the association plans to move to a high-level language.

"We are considering Cobol, Pascal and Fortran," says Pettit. "Fortran is a comparatively new language, but it is becoming increasingly popular. It is marketed by a company called Manhattan Beach Fortran Inc, and is interpreted rather than compiled. It is less flexible than assembler and is not so powerful as Fortran but it is not so greedy either."

When the Home Federal Savings and Loan Company looked for a branch network system to replace its IBM 2980 teller stations, none of the existing systems was suitable. It therefore designed its own, and this turned out to be so successful that Home Federal is now planning to set up a separate company to market it to other US savings and loan associations. TIM PALMER reports from San Diego, California.

As few shops keep buffer stocks of food, a need has been created for a fast and accurate method of getting orders to the distribution depots and hence on to the shelves. At Smadley-HP Foods, a system has been pioneered which uses standard telephone handsets and a small, low-cost terminal which each of the company's

150 salesmen carries with him on his rounds. The salesmen are able to dial up the mainframe at no cost to the customer from each shop and the voice responses part of the system helps reduce errors and gives it a human feel. As Laura Tatham says, pioneering need not always be agonising for a user.

## Using voice response to speed the housekeeping orders



A saleswoman from Smadley-HP places an order quickly and simply from a shop via portable terminals linked to a voice response system supplied by Menzies Communications Systems. It uses the standard telephone network.

PIONEERING is not always agonising. Smadley-HP Foods Ltd, for instance, is one of the earliest users of a voice response system for data collection that was recently introduced into the UK. The company encountered no difficulties during installation, implementation was quick and the system, which has been in live operation since February this year, has worked successfully ever since.

The voice response system was first used in the UK by the Edinburgh-based John Menzies Group (whose best-known member is the chain of station newsstands and bookshops of the same name). As a result of its own experience, the group set up a subsidiary, Menzies Communications Systems, to market the system in this country.

Smadley-HP Foods uses the system for daily collection of order data from its 150 sub-stores, each of whom is provided with a small, lightweight and very low-cost portable terminal. The terminal keypad, which has a standard numerical layout plus a few extra control keys, operates on the touch-tone principle. It can be used with any telephone to transmit through the public network.

The voice the salesman hears is human in origin. The response, whose content varies as the situation demands, is assembled from a vocabulary that has been pre-recorded on a magnetic disk. In the case of Smadley-HP Foods, the main response microcomputer functions as a multiplexer and is online to the company's existing ICL 1902T.

Another user, Colgate-Palmolive, whose system was installed almost concurrently with that of Smadley-HP Foods, has a free-standing MCS mini and transfers the recording medium by hand to its Honeywell 60/20 mainframe.

Supermarkets and other multiples seldom, if ever, maintain buffer stocks of food these days. There is a similar trend in smaller grocers. Whether these outlets are replenished by the owners' local depots or directly by manufacturers, the latter must deliver promptly or there will be gaps on the shelves and sales will suffer.

It was to speed order processing that Smadley-HP Foods (a subsidiary of the giant Imperial Group) whose products cover a wide range of sauces, pickles and canned fruit and vegetables, installed with MCS the voice response system.

Until that time, order recording had followed the pattern,

that, with individual variations, is now a convention throughout most of the grocery trade.

Each salesman wrote each customer's order detail on a separate, five-part preprinted form set. He then posted the top copy to the computer centre, others to the appropriate local depots or factories, and kept one for reference. Order processing is done in the hatch mode.

Today, each salesman transmits the day's orders via his battery-powered terminal in conjunction with an acoustic coupler. To access the system he dials its Post Office Freephone number and is answered by the voice announcing its identity.

Having in turn identified himself by keying in his personal number (also acknowledged by the voice), the salesman enters a

unit. The mini decodes and digitises the tones generated by the depression of each terminal key and assembles the characters into messages.

The data then passes to the mainframe. This applies a range of validation tests which are not confined only to such matters as field size and check-digit verification but also include reference to file information such as delivery dates and stock sizes. It then initiates the appropriate response from the voice memory disc, which stores a vocabulary of 64 words.

Accepted input is written to file for batch processing in the normal way. Plans now under consideration will, if adopted, speed order processing yet further, for delivery note data will be directly transmitted to terminals in the distribution points.

Smadley-HP Foods' MCS installation serves a total of 16 external lines and distributes the vocabulary replies across all of these so that there is no delay when more than one terminal user requires the same response. MCS says that the response time, even in very large systems with up to 60 I/O lines and heavy traffic, should not exceed 0.5 to 0.6 seconds. The Smadley-HP Foods system remains open from 10 am to 6 pm each working day. A small number of orders is also input internally using a terminal via an extension off the company's switchboard.

Colin Powell, the company's management services manager, was delighted by the speed and ease with which the voice response system was installed and implemented. It all went according to the tight timetable that had been set.

A preliminary investigation carried out on the company's behalf by Warwick University in January 1977 confirmed that, in technical terms, the terminals were viable. In May the company signed a contract with MCS. Thanks to the help of Frank Hutton, a freelance telecommunications consultant, and very good co-operation from both ICL and the Post Office as well as MCS, live trials began in November.

Salesmen who took part in the pilot scheme were carefully chosen to represent a cross-section of ages and experience. Since the company's operations cover the whole of the UK, including Northern Ireland, trials were also made from several widely separated locations so as to test the performance of the public telephone network.

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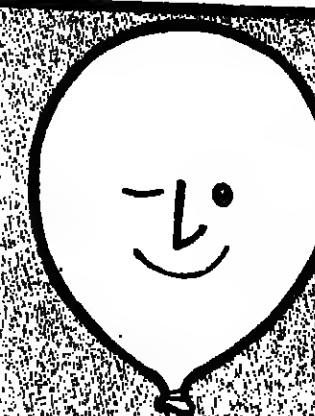
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## KENT COUNTY COUNCIL

HIGHWAYS & TRANSPORTATION DEPARTMENT

### Computer Programmer

£3,279-£4,146 (inclusive)

for the Transport Planning Group to assist engineers in the use of existing programs, including preparing, running and analysing particular jobs, to write programs required in the analysis of traffic data, and to give general computing advice to other members of the Group. Applicants should have some experience of FORTRAN. Facilities include a remote batch terminal to both the County computer and commercial bureaux.

Application form, returnable by 6 January, from County Surveyor, Kent House, Lower Stone Street, Maidstone. (Ref. P4297/CW)

COUNTY OF SOUTH GLAMORGAN  
County Treasurer's Department

### SYSTEMS ANALYST/ PROGRAMMER

AP5 £4773-£5073 per annum

Required in the Accountancy Division at County Headquarters, Newport Road, Cardiff, to be responsible for the detailed design, programming and implementation of computer applications both financial and non-financial. Current Cobol programming experience required, and systems analysis experience desirable. The job will entail developing applications for an ICL 2872 with particular emphasis towards on-line operations. Job description available with application form. Applications will be accepted from unqualified but suitably experienced persons, but preference will be given to candidates possessing a recognised qualification.

The salary quoted includes a supplement which will not count for overtime and other similar enhancements.

Application form, returnable by 12th January, 1979, available from the Personnel Officer, 9th Floor, County Headquarters, Newport Road, Cardiff. Telephone Cardiff (0222) 499022 Ext. 3411/2.



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UNIVERSITY OF LIVERPOOL  
X-RAY ASTRONOMY GROUP

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to work on the UK-5 and HEAD-8 satellite projects in the X-Ray Astronomy Group. The successful candidate will be required to take responsibility for the operation of the Data Terminal and to assist with writing and maintenance of data analysis software for both UK-5 and HEAD-8 projects. Candidates should be graduates in Physics or Astrophysics, with experience of computer programming (questions particularly with POP-11 systems). The appointment is until December 1981, subject to satisfactory completion of a one year probationary period, as a salary on the Research Assistant scale 10 (3,384-4,382).

Applicants in writing, with full curriculum vitae and names of two referees, to Professor K. A. Pounds, Department of Physics, Liverpool University, University Road, Liverpool L69 7SB, by 9th January, 1979.

### THE UNIVERSITY OF LIVERPOOL DEPARTMENT OF PHYSICS PROGRAMMER

(Based in Liverpool) To assist physicists using the Nuclear Structure Facility at S.R.C. a Quesbury Laboratory. The work may include assisting with data analysis programs and systems work to exploit a multi-user workstation to be installed in Liverpool, incorporating two coupled G.E.C. 4070 Computers and linked to the S.R.C. computing network. A degree or equivalent is essential. The appointment will be made according to age, qualifications and experience, on the scale for Experimental Officers (up to £5804 p.a.) or Senior Experimental Officers (up to £5855 p.a.). Application forms may be obtained from The Registrar, The University, P.O. Box 147, Liverpool, L69 3BX. Quoted Ref: RV/431/CW

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Further details from the Director, Manchester Museum, The University, Manchester M13 9PL

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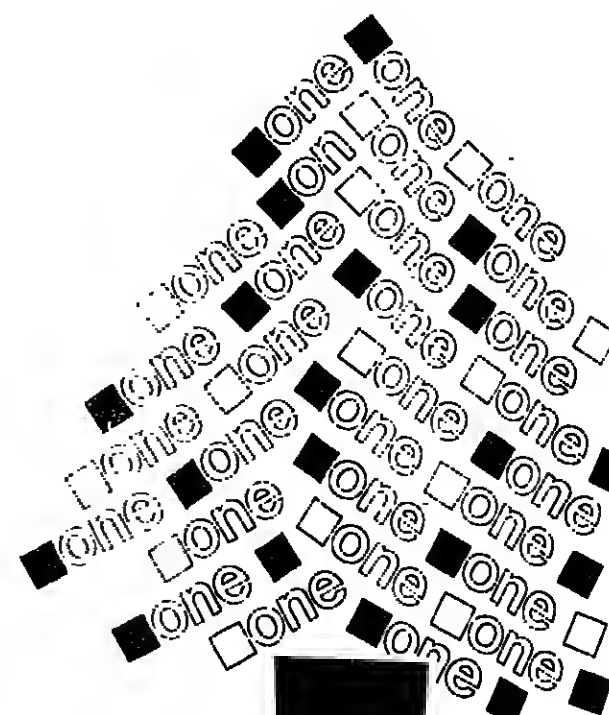
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UNIVERSITY OF NEWCASTLE UPON TYNE  
Department of Civil Engineering  
Division of Transport Engineering

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The post is offered as a one-year post with the possibility of extension. The salary will be in the range £4,000 to £5,000 per annum, depending on qualifications and experience. Membership of the Institution of Mechanical Engineers is required. Applicants should send their curriculum vitae and references to the Registrar, The University, Newcastle upon Tyne NE1 7RU, not later than 28th January, 1979. Please quote reference CV.

Hampshire Education Authority  
Hampshire College of Technology  
Paramount

**PROGRAMMER/ANALYST**

An ICL 2900 provides a basic and attractive salary scale for use by all the departments in the College. The successful candidate will be required to provide a programming and analysis service for the development of applications and systems software. Applicants should be of graduate or equivalent standard and have at least one year's programming experience in ICL 2900 or 2900 COBOL and/or FORTRAN or ALGOL.

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## £4500 to £8000

Unilever Computer Services Ltd is a member of the Unilever group of companies, and is one of the largest and most successful computer service operations in the U.K. with activities ranging from bureau services through microprocessor systems to computerised information services. Our bureau service is based on several large I.B.M. compatible mainframes and operates a sophisticated telecommunications network within the U.K. and Europe.

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The engineering region within UCSL is a separate marketing group with responsibility for servicing the requirements of the oil, petro-chemical, construction and allied industries. Our support teams provide a high calibre consultancy and development service to these industries, both in information and technical systems. Our application areas range through project management, cost control, materials control and manpower planning to pipe stressing and structural analysis.

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This is a Senior appointment requiring a person with a strong technical background in Fortran and engineering to cover all aspects of technical support and customer liaison in the areas of pipe stressing and structural analysis systems. Ideally the selected applicant will have 3 years + Fortran experience and a relevant engineering qualification. The ability to communicate well is essential.

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This is an excellent career opportunity for a technical programmer to join a small end expanding team. Applicants should have at least 18 months Fortran experience gained in an engineering environment, and should have the potential to progress into client consultancy.

**CONTACT:** John Warren  
Station House  
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**TEL:** 01-903 1414

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# COMBYTE CONTRACTS

£150 to £350 p.w. (plus expenses where applicable)



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**SAUDI ARABIA**  
170 OS MVS PL1 / COBOL Anal./Progs. 1 yr. +  
(Start Feb.)

**HOLLAND**  
170 OS VS/1 MVS Syst./Progs. (2) 3 months +  
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**CHESHIRE**  
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**CHESHIRE**  
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Boroughs 1830 MCP using DMS (4) 4-6 months  
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**CROYDON**  
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2900 VME/B, SCL, COBOL Anal./Prog. (4) 2-4 months +  
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(Jan. Interviews)

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11 STAMFORD HOUSE,  
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Combyte Services would like to wish you all a Merry Christmas



MODCOMP has now established mini manufacturing and software development capabilities in the UK. As part of our continuing growth, we need the following people:

## European Hardware Support

to £8,000 p.a.

## Sales Engineer

to £8,000 p.a. basic

## Sales Support

to £8,000 p.a. basic

Company benefits are excellent and include free BUPA and non-contributory pension. Relocation is possible.

This is a key role within the European Customer Service Organisation based at Wokingham. It involves travel throughout Europe providing high level technical support to local field service engineers. The job demands the ability to fault find down to chip level and additionally the co-ordination/dissemination of information between the UK and Europe. It will attract someone who has about four years experience of support engineering on mainframe or mini systems, who enjoys trouble shooting and would welcome the opportunity to travel.

We wish to further increase our activities in the Midlands and need a sales engineer to open up new markets from our Coventry office. It requires a proven background of successful selling within the mini market, preferably in an industrial environment. It will attract an aggressive salesman who wants to see good financial rewards for his efforts. There will be a basic salary plus commission scheme and company car.

We have already increased our sales force in the South of England and now require an additional pre-sales support analyst, to work from the Wokingham office. He/she will provide technical support to the sales force and will work on proposals, benchmarks, presentations, configurations etc. Suitable candidates will have a technical background on minis with particular emphasis on communications software, and will enjoy generating technical solutions to meet clients business needs. Benefits include a company car.

For further details ring ANNE CAMPBELL at (0734) 791179 or send a resume to her at MODULAR COMPUTER SERVICES, Broad Street, Wokingham, Berkshire.

# MODCOMP

## SESA

DEUTSCHLAND GMBH

## REALTIME PROGRAMMERS

### REALTIME DATA PROCESSING in WEST GERMANY

SESA is one of the top-ranking international firms specializing in the ANALYSIS, DESIGN and DEVELOPMENT of computerbased realtime-systems.

In the course of realizing more than 400 such projects SESA has also developed an expertise in the management of large-scale complex Turnkey-systems.

We are seeking REALTIME-programmers in the following fields:

- NETWORK AND COMMUNICATIONS
- TRANSACTION - PROCESSING
- PROCESS-CONTROL

Applicants should have 3-5 years experience in the design and development of realtime-software. Experience in the following fields is essential:

- OPERATING SYSTEMS
- HIGH LEVEL LANGUAGES
- ASSEMBLER LANGUAGES

Knowledge of either PL1, ALGOL 68, BCPL or CORAL and at least one realtime-operating-system would be of advantage.

An excellent salary and fringe benefits will be part of the contract offered to the successful applicant.

Further conditions will be discussed during interviews which will be held in London in January 1979.

Please apply referring to this advert with full curriculum vitae to:

SESA-Deutschland GmbH  
Lacobieter 7  
D-4000 Düsseldorf 1  
Mrs B. Lehmann

CMG is a rapidly expanding Computer Service Bureau with operating subsidiaries throughout the UK and Europe. Wherever you are...

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£5000-£8000

Sound business knowledge is essential as the work not only involves data control and supervising the quality of the business systems being processed on our computers, but also involves liaising with our clients on the use and extension of computer systems within their organisations. All applicants must have practical experience of computer systems and sound understanding of accounting principles.

Benefits include long working hours and lunchtime vouchers, non-contributory life insurance and BUPA schemes, in addition to a profit sharing bonus.

These posts offer a wide variety of assignments and excellent career development. If you feel that you meet up to our standards and highly rewarding standards, please write or telephone for an application form.

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## Management Services

### (a) COMPUTER LIAISON OFFICER

(Ref. No. 18/61) £5,887-£8,003 p.a. (incl.)  
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(Ref. No. 18/59) £3,714-£4,581 p.a. (incl.) (2 posts)

These posts are located within the Computer Liaison Unit which is actively engaged on all aspects of management services, work connected with information processing, computing and computer systems. Post (a) plays a major support and occasional lead role with regard to a wide variety of management and information systems projects involving feasibility, research into user requirements, systems design and implementation, and must be able to work well within higher management levels, and be able to plan and work to tight and cost effective assignment standards. Practical experience and broad training in nature and role of information systems, computer systems and management services (O&M) is necessary, will preferably hold a degree and/or Business Studies qualification.

Post (b) requires initiative, analytical ability and skill in communication, together with a problem solving facility, sound knowledge of computers and application would be an advantage. A degree level of education or equivalent preferred. Formal training provided as appropriate.

For application form please telephone our 24-hour recruitment answering service 01 837 3988 or send postcard to the Chief Executive, London Borough of Camden, Town Hall, Euston Road, London, NW1 2RT, stating post and appropriate reference number.

Camden - an equal opportunity employer

Applicants are encouraged to apply on the basis of their suitability for the post, regardless of race, sex & marital status. All successful candidates will be offered a competitive salary and benefits package.

## METROPOLITAN BOROUGH OF WIGAN

Finance Department

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Post No. FC8 Grade AP2/5 Career Grade — £2,887-£4,781 + £312 supplement. Starting salary will be dependent on qualifications and experience.

Applicants must have at least two years' experience of POE E plan and Cobol programming and a working knowledge of Applications Manager Software would be an advantage. The successful applicant will be expected to assist in designing, writing and maintaining application systems (some of which are on-line), working as a senior member of a team.

The Council are currently enhancing the installation to an ICL 1902T Computer in facilitate the development of communication systems.

Application form obtainable from Chief Personnel Officer, Civic Centre, Millgate, Wigan. Tel: Wigan 44991 Ext. 30 to be returned by 12th January, 1979.

## COMPUTER PERSONNEL APPOINTMENTS LTD.

Career Specialists and Consultants for

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Midlands, Northern Counties and Scotland

For application form apply to:

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## THERE IS STILL TIME LEFT IN 1978 TO SECURE YOUR FUTURE

If you consider yourself a SENIOR PROGRAMMER you should now be thinking about 1979 and the following decade, the 80's. You have no doubt spent a great deal of the 70's in laying a good foundation in order to become a Senior Programmer.

You should now be able to recognise an opportunity to build a worthwhile career in Computers based on that hard-worked for foundation.

Your experience entitles you to be choosy and to select the sort of Company who not only are able, but are determined to do the very best for YOU.

OUR CLIENT IS THAT SORT OF COMPANY. Of international repute and world-wide success they do everything competently and that includes looking after their Computer Staff.

There are still two or three vacancies for Senior Programmers of around five years experience.

COBOL is a must, but if it is other than I.B.M. don't let this deter you. There are internal and external training facilities which our client realises are a 'must' if technical expertise is to be maintained.

You will be involved in on-line program development (2x370/158s) covering virtually the whole spectrum of Commercial Applications plus the occasional International Project which could mean short-term visits abroad.

Apart from a progressive career and salary structure there are the usual top-company benefits plus a comprehensive relocation package if you are the person they really want.

Situated just outside London, which has obvious commuter advantages, there are superb working conditions in very pleasant surroundings.

SALARIES ARE UP TO £8,000 per annum.

CONTACT DENNIS ANDREWS — 01-402 0933.

## How to meet Mr. Big without Mr. Middle getting in the way.

Not what you know, but who you know. How many times have you heard that?

And how often do you have to go through a self-interested third party before you can see the employers you would like to know?

We have a pleasant surprise for you. Lansdowne can arrange for you to meet the Decision-Makers without Middle-men getting in the way.

Over 3,000 good employers — big and small — use us to find new personnel for key jobs offering better opportunities and higher earnings.

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You won't be pestered by us for dates, times, money or anything else. You'll just be asked by an employer, if you want to talk about a better deal.

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Our clients are keen to meet men and women, aged 20 to 40 years, with potential earnings of between £4000 and £8000 p.a.

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For those just busy doing a job, it's time to find a better one.



# Computer personnel

VICTORIA  
APPOINTMENTS  
LIMITED

12th October, 1978

Our Ref: VCH/hr

For the attention of Mr. O. Kelly,  
Classified Advertising,  
Computer Weekly,  
Statham House,  
Talbot Road,  
Stretford,  
Manchester M31 0BP.

Dear Mr. Kelly,

Further to our advertisement in your Northern Feature of 21st September, 1978, I must write to say that we have received an overwhelming response to this feature, with candidates already having received offers of employment from our Clients.

I do feel this illustrates the point that specialist geographical recruitment features are invaluable and we shall continue to take advantage of the excellent services provided by Computer Weekly.

Yours sincerely,

Val Halliwell

V.C. Halliwell (Miss)  
Managing Consultant

24 MOSLEY STREET, MANCHESTER 2  
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'em there. But  
if you really  
do mean  
business,  
advertise  
your DP  
vacancies  
in the one  
computer  
newspaper  
that really  
does get  
results

## D.P. Professionals for the Oil Industry

The British National Oil Corporation is currently planning its next major capital programme for the UK Continental Shelf. This represents a significant challenge and an opportunity for the Corporation and its support organisations to develop and implement computer based systems. The Corporation is seeking to recruit a number of D.P. professionals to assist in the development and implementation of these systems. The Corporation is seeking to recruit a number of D.P. professionals to assist in the development and implementation of these systems. The Corporation is seeking to recruit a number of D.P. professionals to assist in the development and implementation of these systems.

## PROJECT LEADERS SENIOR SYSTEMS ANALYSTS

If you have the requisite experience, are versatile and have the drive and enthusiasm necessary to cope with these demanding opportunities, the Corporation offers great potential for personal career development.

These are all Glasgow based positions. The successful candidates will be offered salaries which fully reflect the importance of the positions and the project. Other benefits include a first class pension scheme and generous relocation expenses, where appropriate.

Should you wish further information regarding career prospects within our D.P. function, telephone The Recruitment Officer, on 041-204 2525 or write to him at: 206 St. Vincent Street, GLASGOW G2 6JJ.

**BNOC** The British National Oil Corporation

## Bristol Waterworks Company

### DATA CONTROLLER COMPUTER DEPARTMENT

Applications are invited for the above post. Candidates should have J.C.L. knowledge, preferably I.B.M. O/S or UNIVAC 8000 series and an understanding of J.Proc.

The duties will involve recording and controlling all movements of data into and out of the Computer Room. The control, user liaison and scheduling work through the machine.

Salary will be within the range £4,170-£4,682 (including supplement).

Application forms can be obtained from the Personnel Department (ext. 204) between 8.30 a.m. and 4.30 p.m.

Bristol Waterworks Company  
Bridgewater Road  
Bristol BS6 8 7AU  
Tel: Bristol (0272) 665881

### ANALYST/PROGRAMMERS

With real-time experience and good German sought for permanent employment by established software consultancy in S.W. Germany. Salary negotiable. Removal expenses plus fringe benefits.

For further details write: Intermark GmbH, Sonnenbergstr. 13, 7000 Stuttgart 1 or call 07145 711 247027.

### FIELD SERVICE ENGINEER

A further vacancy exists for a Field Service Engineer to install, inspect and service microprocessor based digital controllers (V.D.U.'s), floppy, paper tape punch and readers, etc. Ability to fault find and repair to component level is essential. Willingness to travel throughout the U.K. as required, although sometimes will be spent on industrial visits. Excellent prospects and also regular. Excellent prospects and also regular. Excellent prospects and also regular.

Write in first instance with v.c. to:  
Mr. M. J. Pridmore  
General Manager  
R. H. SYSTEMS LTD  
Unit 5, Portland  
Industrial Estate  
Aldersay, Bosc. SO15 6BA

### SYSTEMS ANALYST

£6000 p.a. plus generous car allowance for leading British company at Tottenham, 120-121 (N17). Please hear more on 01-409 1021. PLEASE JUST LISTEN. YOU DO NOT NEED TO SPEAK.

### HELP US SHAPE THE FUTURE

An entirely new type of job with IPC's Viewdata Development Unit exists for someone with imagination and experience in sorting out and presenting information in a clear and concise manner.

We are exploring the possibilities of Viewdata, a potentially powerful new information and publishing medium and now require someone we can only describe as an "Information Collector". Who ever is appointed will be, or will become, part of our team, part editor, part filing clerk and part advertisement representative — indeed the tasks to be performed will range from the exciting "frontiers-of-technology-pushing" ones, to the mundane routine of meeting half daily deadlines, to the downright frustrating. The future is frankly uncertain — we are an experimental unit — but a large extent will be what you help to make it. So if you are an enthusiastic optimist with flair and commercial judgement, get in touch and help shape the future.

Contact: Peter Fletcher, Viewdata Manager, IPC Business Press, 179-80, Blackfriars Road, London, SE1. Tel: 01-281 9111; Ext. 211.

**THE BUSINESS PRESS**

## THE SALES AND MARKETING BIT

### Selling a hole in the wall

MY complimentary ticket for Compec had been lurking in the back of my Samsonite for weeks, like the implied threat of an unpaid parking ticket.

The prospect was as potentially traumatic as a blind date. Would the excursion be a mind-bending delight or a boring disaster? Which would swing the balance — the heat of untempered Megabodies, the frustration of product multiplicity and inadequacy and the exhaustion of trading around endless clone-like company stands, or the euphoria of micro-technology, the stimulation of new computer applications and the pleasure of meeting old friends?

At last my inherent masochism won the day and my colleagues and I kept aboard the District Line, bound for Olympia.

I know it's overdoing things, I know it shows a lack of imagination, I know it's a little dishonest, I know it bores my colleagues intensely, but whenever I go to a computer exhibition I always pose as a potential buyer. I wander on to whichever stand takes my fancy and hang around on the off-chance that someone might be interested in selling me something. I like to see if there are any salesmen about, perhaps in the hope of learning some new sales technique or simply to enjoy the pleasure of witnessing an effective salesman at work.

I regret to say I am always disappointed — and that is perhaps the main reason for my jaundiced attitude towards computer exhibitions. There are lots of things I could moan about in terms of product presentation, but the bad exhibition stands have only to witness the good ones in order to have some idea of how to improve themselves. What does exasperate me, though, are those salesmen who are so insular in terms of their sales approach and their product that they appear to be incapable of relating to the problems of the potential client.

"Can I help you, sir?" "Yes, I'd like some information please. I'm interested in the possibility of installing a computer."

"Then you've come to the right place sir. I'd like to tell you about the Microcheap 88. The basic model comes with a 32K processor twin dual-density, double-sided floppies, a 180 chips matrix printer, and a 24 by 80 VDU. There is also included a Basic compiler as well as a Cobol and Fortran. The whole lot is available at the incredibly low price of £x", and so on.

I was greeted with this kind of response over and over again.

No one, not one single salesman, asked me about the nature of my problem. For what purpose was I considering the use of computers?

After the show, at the Computer Weekly theatre, I was speaking with a very experienced salesman who was known for years. He related with some surprise how a prospect had visited his stand, and when my friend asked what business he was in, and had been informed that the prospect was from the jewellery trade, he suggested that the prospect might have a stock control problem which could be resolved by the use of computers.

The man was flabbergasted. "You know," said the prospect, "I've been looking at computer equipment at this exhibition all day and you are the first person who appears to have some understanding of what my business problems might be!" — and all my friend said was "Do you have a stock problem?"

Solutions to problems — that is what the end-users of computer systems are seeking, not tons. Okay, much of Compec is in the OEM sector, but computers for business applications were very much in evidence this year and this is where the salesman needs to have a thorough understanding of commercial and industrial applications as well as related software. Specific industry knowledge is a real bonus.

I was discussing this failure of relating the sale to the solution with another knowledgeable senior sales manager, and he summed it up very succinctly. "These guys can't seem to get it into their heads that when they are selling is a hole in the wall, not a three-in drill."

### TRADER

### PRODUCT NOTES

### Microfilm storage

A SYSTEM of microfilm storage has been announced by The Shannon of Beckenham, Kent, to accommodate the current estimated 30% growth in the use of microfilm. This year's microfilm market is estimated at £37 million, generating an £800,000 market for storage.

Roll out drawers are made to store microfilm, fiche or cartridge in the company's standard filing cupboards. Other items in the system include cabinets ranging from two to 10 drawers in two widths and loose leaf binders which take five or 10 slotted inserts each holding 34 fiches. Binders cost £12 to £20, and cabinets from £40 up.

The Shannon Ltd (CW), St Margarets Road, Beckenham, Kent.

### Puzzle Answer

1 8 2 4  
1 8 2 4  
1 8 2 4  
1 8 2 4 +

7 2 9 8

E can also be odd, with DEUX 1324 and HUIT 5206.

Andrew Basden, of the Faculty of Medicine at Southampton University, has discovered an alternative set of triplets for the November 9 work-schedule problem. Only one possible set was previously thought to exist. His solution is: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



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Programming experience in the Survey Analysts field or in using any of the University of London Institute of Education, Bedford Way, London WC1H 0AL, quoting reference PJ 78590. Closing date for applications is January 12, 1979.

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The normal hours of duty are 26 1/4 per week and the Unit operates a flexible working hour scheme.

The office accommodation is of a high standard and is located near the central shopping and business area of Preston. Application forms and further details are available from: The Director, North Western Road Construction Unit, Council House, Brierley Street, Preston, Lancashire, PR1 2JZ. Tel: 0524 74701. Fax: 0524 74702. Closing date for applications is 17th January 1979.

## CLASSIFIED COPY JANUARY 4th ISSUE

All classified copy should reach our offices no later than 4 p.m. on Friday, December 29th, 1978 for inclusion in the January 4th issue.

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Applications are invited for the post of Data Processing Officer in the University Central Administration, tenable as soon as possible. Salary will be on the Grade 11 scale £8,517-£27,784 p.a. (under review). Further particulars may be obtained from the Secretary and Registrar, University of Warwick, Coventry CV4 7AL, to whom written applications (no forms) naming three referees should be sent by 16th January 1979. Please quote Ref: No 2019.

## Ascii through the Logic Gate

An epic in 32K words, by Richard Forsyth

### Block 24 (Block Of Ages)

Hex is imprisoned in Fort Ranfour while back at Sprocket's Hole Cleo and Hex's former comrades are waking up to his absence.

WHEN they awoke to find Hex gone, they immediately started a search of the whole area. Needless to say, they found nothing.

Zap was scathing. "When he found he couldn't run the show, he just quit. We're better off without someone like that."

"He may have been kidnapped," suggested Cleo.

"What? The Error Squad heavies march down here, abduct him so gently they don't even disturb us, then march off again leaving us fast asleep?"

Put that way, it certainly sounded implausible.

"But if he went of his own free will," asked Lambda, "why didn't he leave any message?"

"That's exactly it. Our limelight-hogging friend cares nothing about our future. He just wants glory. He drummed us into this; but when the going gets hot, he just chickens out," denounced Zap. "I tell you; we are better off without him. He's probably gone back to the System to beg for forgiveness."

"In that case," concluded Lambda, "we're in real peril. We'd better move out of here."

"We will," Zap assured her, "as soon as I've prised the formula for syllogistic acid from that cowboy."

They turned to look at Bill Bootstrap, who had remained impassive throughout, not even complaining about his cramped position tied up to the teletype.

"If you spill the beans without fuss," Zap told him, "it will be easier for all of us."

No reply.

"We haven't got time to be well-mannered about it," Zap warned, ostentatiously polishing the blade of his binary chopper.

"What good is syllogistic acid to you?" demanded Bootstrap gruffly.

Zap outlined his concept to LSD (Large Scale Disintegration). This had a strange effect. The recalcitrant Bootstrap became not just co-operative but positively en-



thusiastic. He swept aside Zap's plan as insufficiently ambitious, revealing instead his own grandiose design for VLSD (Very Large Scale Disintegration). He had obviously given the matter much thought.

"Syllogistic acid won't be strong enough," he said, "too dialectical. You need a really deadly nerve gas. Think big. Imagine a huge thick dark cloud of jargon obnoxious drifting unstopably towards Fort Ranfour."

"Jargon obnoxious," mused Cleo, "I thought that was laughing gas."

"You might laugh," replied Bootstrap with a leer.

"It's barbaric," protested Lambda with a shudder. "Jargon and all its mind-contracting derivatives have been banned from civilized warfare; it maims the intellect and brings thought processes to a standstill."

But the idea had fired Zap's imagination. He pestered Bootstrap for details. What was its composition? How was it made? Where could they obtain the ingredients? Before long, he and Bootstrap (now unclimbed) were immersed in technical discussion, like two boys with a chemistry set deciding to make sink bombs.

Production plans were soon well advanced. Cleo was to collect the mushrooms. Zap was to set up the filtration plant and Lambda would repair the cooking stove, all under Bootstrap's direction. And he hadn't even divulged the recipe yet.

Bootstrap described to Cleo in meticulous detail the markings and colouring of the fungus she was to seek (Jargonica Intellectualis Paralytica) as well as the kind of sheltered nook where it liked to grow, his face never betraying that they had met before.

She didn't like it at all. As she set out with an empty wicker bag for the harvest, she was filled with disquiet. Bootstrap's gaze made her distinctly uncomfortable. Unlike the others, she had first-hand experience of Bootstrap and his ways.

To add to her unease, she was worried about Hex. It was true that he was a loner and hadn't got on particularly well with Zap (nor with her latterly) but it seemed out of character for him to walk out just like that. She felt sure some evil had befallen him.

In this mood, she found she had walked a very long way from Sprocket's Hole before she recalled her task of mushroom picking. Fortunately, she had come to the kind of shady spot which was ideal habitat for them. She quickly identified a big clump and was soon busily filling her bag. She wandered around gathering them up by the handful. By the time her basket was nearly full, she had lost all sense of direction.

She started back downhill. All at once she tripped up. Mushrooms split out all over the place. Rising, she noticed with amazement that what she had stumbled across was an old railroad track. It seemed very odd, so remote and on such a steep incline. Quite forgetting her overturned basket, she followed the rails upwards.

Before long the line simply disappeared into the side of the hill. She was standing in front of a disused mineshaft. A wooden sign was nailed to the beam over the entrance way. By scrapping off the encrusted dirt and lichen she could read the words "Quicksilver Mining Company".

"This could be the perfect hideout," she thought to herself.

She went straight in, stooping as she walked. As her eyes grew used to the gloom, she could see that the sides of the tunnel were streaked with silvery green. She pressed on, dead level, but getting deeper into the mountain all the time. After two hundred metres she came to a full stop. There was simply no way ahead. Looking back, the daylight was a mere pinprick. All she could hear was her own breathing and the nearby sound of dripping water. She was about to retrace her steps when her skirt caught on something. Reaching down, her fingers clasped a metal rod, set into the rock wall. It seemed to be some sort of lever.

There was a clink of rusty machinery creaking into motion. She was catapulted forward. She had an instant of free fall in total darkness, then she landed with a bump in bright light on a table full of test-tubes and other glassware. A bottle rolled onto the floor and broke.

Is this the lowest she can fall? Not by a long way.

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## NEWS IN BRIEF

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The first of Fujitsu's large-scale M200 mainframes, claimed to be 50% more powerful than IBM's 3033, is set for delivery to a Japanese university in April, and three are under construction.

### £150 million games

THE European market for electronic games will increase fivefold to reach about £150 million by 1985, according to a Frost and Sullivan market research study. This could represent 50% of the total market, the study says, also suggesting that games with built-in viewing screens could develop into a major factor.

### Word is No

TYPISTS on the staff of Bradford City Council have voted overwhelmingly against the introduction of more word processing (CW, December 14). At a mass meeting, voting on the question "Are you in favour of word processing?" was 16 for and 129 against.

### Social policies

A ONE-DAY conference looking at the relationship between social policies and industrial innovation is to be held on January 6 at the University of Aston, Birmingham.

## System Aid shows its breeding . . .

WHAT do animal breeding, package holidays and damers shorts have in common? The answer, would you believe, is System Aid, the specialist in software for good breeding and the travel industry, which this month enters its 11th year.

Ten years ago, System Aid (Tour Processing) was formed by Nick and Jane Winterhouse. "At the time Nick was working for a merchant bank trying to sort out companies in trouble, while I was involved in systems work," Jane told Computer Weekly at the company's pre-Christmas birthday celebration.

"One of the companies Nick was trying to rescue was involved in making damers shorts cake blouses, so I suppose we originally went into System Aid as a hedge against the collapse of the shortcake market."

Since then, the company has grown to a turnover of around £250,000 with a staff of 31

and a library of programs worth about £1 million. Jane Winterhouse said she believed a major factor in System Aid's success had been that it had stuck to a number of specialist applications, building up expertise in those areas rather than going for "growth at any cost."

The main products provided by System Aid are the Tourpass and Tourpack real time reservation and order administration systems for the travel business, and Checkmaster for genetic recording and analysis.

The Australian Kinnal Club, one of whose members is pictured right, and the British Friesian Cattle Society of Great Britain and Ireland are among the Checkmaster users and British Airways' Enterprise and Sovereign and the Italian State Railways are among System Aid's tour operator clients. System Aid also runs Teletour Ltd, which owns and operates the group's ICL 2803 installation.



## Better football results forecasting

By Professor Frank George

THE Boxing Day football league programme will provide a test for Forecast 4, an improved version of the successful football prediction program developed by myself and colleague Dr Roger Hartley. And I shall be appearing on Thames Television on December 22 to reveal the predictions (see front page).

Forecast 4 contains some new features compared to the previous Forecast 3, as well as being timed to take account of the latest accumulation of results.

Recently I wrote about Forecast 3 (CW, November 16) and made clear that there were three phases involved in the process.

The first is the use of form, which is represented by league position and the last two results of each club in a fixture. The second is the decision made by the individual as to whether to add further tests such as the history of the games between the two clubs, a goal difference test, and so on. This is necessary

to avoid everyone having the same forecast.

The third point is the sort itself, whereby the forecast score draws 90 per cent expected) are mixed with 10 per cent unexpected to introduce the necessary random element.

The following is a possible mode of approach to the Boxing Day programme.

The fixture list for Boxing Day starts with Arsenal v West Bromwich Albion. Let us look at this first match and the league positions as on December 9 (although these will obviously have changed by Boxing Day). Arsenal are fourth (23 points from 18 matches) and West Bromwich Albion third (25 points from 17 matches). This is a borderline draw (we score 2 points for a draw).

We now look at the last two results (up to December 9), and these are for Arsenal: home win last game but one and away draw last game. For West Bromwich Albion it was a home win, and the last fixture before that was actually postponed, so we take the one before that, which was an away draw. Now we look up the Dix and Triad tables in which for the home team who played away last game, the forecast is home win (2 points). The Triad test forecasts home win or draw (1 point each).

We now look at the Quadrant test, which involves the last three home matches for Arsenal and the last three away matches for West Bromwich. Again taking the present state of affairs, we have Arsenal with WDW as their last three home results and West Bromwich with DDW as the last three away results. This gives 3 points for a draw from Arsenal and nothing from West Bromwich.

The upshot is that a marginal vote for a draw is indicated. If we move to the individual phase, we find previous results of this game are 1-2 last year, and before that West Bromwich were in Division II, so no fixtures took place between them. The game is not a local Derby, so there is no relevance there.

The last point is the "quality" of their previous results: Arsenal drawing 0-0 at Norwich and West Bromwich's 2-0 home win against Middlesbrough are about equivalent. So we could argue that this was an expected draw and we would place it in a list of such draws, where a priority is attached to each. Whether it is one we forecast or not in our sort depends entirely upon the other forecasts.

● The Forecast Club is run by Topaz Books, High Street, Great Missenden, Bucks and members will now be placed automatically on Forecast 4.

### ICL pay agreement

LOWER paid workers in ICL will benefit from an agreement reached last week between the management and unions in the company on a new productivity scheme (CW, November 30).

"The offer by ICL was an improvement on that previously tabled," said an ICL spokesman, "and it provides for higher quarterly bonus payments to the lower paid members of the workforce."

The agreement has yet to be accepted totally by union membership.

### Texas into personal business

THE long-awaited move by Texas Instruments into the personal computer business came a little nearer this week with the news that the company is to discontinue production of its SR60 desk-top calculator.

This has led to industry speculation that Texas Instruments is now putting all its manufacturing resources into the production of its range of three personal computer systems (CW, August 24).



## Overtime ban by ops hits building society

TERMINAL look-up facilities at over half of Leicester Building Society's branches are being halted on Saturdays due to an overtime ban by computer operations staff at its head office/computer centre in Oadby.

The ban centres around a recognition dispute in which about 12 operators are seeking representation by the white collar union APCX after leaving the society's 1,000-strong staff association earlier this year.

"We have suggested that the society should renegotiate its agreement with the staff association," said Terry Venn, area organiser for APCX. "The computer staff have said that they feel the association cannot represent them fully and that it does not have the resources to obtain details of wage levels of computer staff elsewhere... which APCX can."

Basil Eckhardt, general manager of the society, said: "The society is unable to meet the request by computer staff as it already has a legally binding agreement with the staff association. Despite the overtime ban affecting our account checking facilities on Saturday, we are managing to bypass the problem by using the same procedures as we had before the terminals were installed."

Leicester Building Society is currently completing the installation of terminals at all of its 170 branch offices in the UK.

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### Prime minis for UK net

IT now appears that the "British content" in the planned public Packet-Switched Service will be confined to the installation by Plessey. The Post Office is currently negotiating with Plessey for installation of the switching equipment (CW, November 30), and the Plessey bid includes Prime 360 minicomputers as well

as Telenet Processors, which are modular units based on MOS Technology 6802A microprocessors.

The initial switches in Telenet's US packet-switched network were all based on the Prime minis, but newer ones have incorporated the specially-designed Telenet processors.



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